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THE EFFECTS OF TRAINING AND PROFICIENCY IN PUBLIC SPEAKING ON THE DIMENSIONALITY OF SPEECH EVALUATION. FINAL REPORT.

Michigan State Univ., East Lansing. Speech Communication Research Lab. Dept. of Speech.

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Descriptors- *EVALUATION CRITERIA, *EVALUATION METHODS, HIGHER EDUCATION, *PUBLIC SPEAKING, SOUND FILMS, SPEECH, *SPEECH EDUCATION, *SPEECH EVALUATION

The purpose of the study was to investigate the effects of training and proficiency in public speaking on the dimensionality of speech evaluation. Dimensionality was defined in terms of the content and number of factors derived from statistical analysis. Approximately 4800 students representing eight universities yielded more than 14,000 evaluations of filmed speeches representing three distinct quality levels. All data were subjected to the statistical technique of factor analysis. The results of the study indicate the following: (1) Students of public speaking perceive the evaluation of public speaking to be multi-dimensional, and tend to judge the quality of the speaking they evaluate in terms of three to four factor analytic dimensions. (2) A basic course in public speaking broadens the base on which students make speech evaluations, and aids particularly in the development of a language facility dimension of speech evaluation represented by a concern for diction, fluency and word choice. The emergence of a factor tends to be additive to that which the student brings to the basic course. (3) A significant positive relationship appears to exist between the proficiency of student speakers and the acquisition of the language facility dimension of speech evaluation. (4) Training and proficiency in public speaking do not appear to offer a differential effect on the dimensionality of speech evaluation. (Author)

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Speech Communication Research Laboratory
Department of Speech
SCRL 4-68
May, 1968



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THE EFFECTS OF TRAINING AND PROFICIENCY IN
PUBLIC SPEAKING
ON THE DIMENSIONALITY OF SPEECH EVALUATION
Final Report

Submitted by: William B. Lashbrook, Project Director

to

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Speech Communication Research Laboratory
Department of Speech
Michigan State University

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Welfare.

PREFACE

The report of research which follows is one of a series prepared by the Speech Communication Research Laboratory (SCRL) of Michigan State University. This Laboratory was created within the Department of Speech and Theatre for the purposes of conducting research and stimulating and facilitating the distribution of research evolved by the faculty and students of the Department.

The particular project herein described was conducted by SCRL under a grant given by the United States Office of Education. Given the financial support provided by this grant the researcher was able to involve the participation of several other outstanding institutions engaged in the teaching of public speaking. The researcher would at this time like to thank those members of the faculties and the students at the participating schools for their willingness to provide data for this project. Special and sincere appreciation is forwarded to Professors William Arnold, Eldon Baker, Lloyd Bitzer, Edward Bodaken, Robert Ince, Howard Martin, and David Smith for their cooperation and assistance in the gathering of data for the research at their respective institutions.

William B. Lashbrook
Project Director

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INTRODUCTION

1.1 Purpose of the Study

The purpose of this study is to investigate the effect of training and proficiency in public speaking on the dimensionality of speech evaluation. Specifically, and in terms of researchable objectives, this study is aimed at the following:

1. The determination of specific dimensions of speech evaluation as measured by students of public speaking in their attempts to make objective distinctions among varying qualities of public address.
2. The determination of the nature of the relationship between training in public speaking and the recognition and use of dimensions of speech evaluation which make objective distinctions among varying qualities of public address.
3. The determination of the nature of the relationship between developed proficiency in public speaking and the ability to recognize and use objective dimensions of speech evaluation.

1.2 Rationale for the Study

The problems associated with speech evaluation have been among the most perplexing and persistent ones in speech education. This area of concern clearly relates to the classroom where attempts to improve the student speaker often take the form of a critique of his speaking by an instructor and peer evaluators. It is the assumption of such a practice that the critique will provide a clear explanation of what the student did well and/or badly in the particular speaking situation, and that given this explanation, the student, by replication

of the good and avoidance of the bad traits , will be able to become a more effective speaker. This approach to the training of public speakers obviously depends upon the student speaker's ability to identify in his own mind those criteria which clearly differentiate between qualities of speaking and then to use these scales as guidelines for the development of his own speaking skills. Furthermore , the student should be able to reinforce the use of these evaluative criteria by applying them to speeches of varying quality other than his own.

This concern for the problems associated with speech evaluation also relates to the basic rationale of the discipline of Speech itself. It seems implied by the various course listings beyond basic speech which emphasize the theory of and practice in public address , that a detailed study of specific types of speaking will influence a student's perception of the communication act and his ability to effect change. The dimensionality of the communication act clearly involves an ability to make judgments and any influence on that dimensionality must necessarily affect how a student will evaluate public speaking.

A concern for the dimensionality of speech evaluation also extends beyond the classroom to a world that gives the individual in a communicating society the primary role of evaluator of those who seek to modify his behavior for some end. Research has further defined this role of evaluator by pointing out that the major involvement:

of an individual in the communication act is as a listener to oral expression.

That the concern for speech evaluation has not motivated significant research on the associated problems is a critical comment on the field. To a very real extent, Speech is a late comer in the application of the tools of social science. Yet it is apparent that such tools are necessary to the determination of any rigorous solutions to the perplexing problem of speech evaluation. However, even with the tools in hand, the speech researcher is immediately faced with the dilemma of the vast amount of variability that exists in the ways in which Speech is taught. The most dedicated and competent social scientist may investigate speech evaluation at his own institution and have his findings rejected on the grounds that the approach to speech evaluation used is unique to that institution or to a particular instructor within that institution. That such variability exists points to the persistence of the problems of speech evaluation.

1.3 The Method of Attack

The study reported on the following pages represents an attempt to use the modern tools of social science in a massive attack on the problems of speech evaluation. In all approximately 4800 students representing eight different universities participated in the study. These students yielded more than 14,400 evaluations of speeches representing three distinct quality levels. The gathering of data for

the project took about one year and was accomplished only through the cooperative efforts of the institutions involved. Those were Michigan State University, Iowa State University, Ohio State University, and the Universities of Wisconsin, Connecticut, Minnesota, Illinois, and Michigan. Appendix A contains a list of the descriptions of the courses from which the project data were evaluated.

The study was designed to use the statistical technique of factor analysis as an aid for the interpretation of the data. This technique examines the intercorrelation of evaluative criteria with a view to finding the significant dimensions of judgment. For the purposes of the study a dimension shall be defined as a cluster of evaluative criteria highly correlated with one another and less correlated with clusters of criteria representing other dimensions. There will be further discussion of the technique of factor analysis in latter sections of this report. It is sufficient to say at this point that factor analysis appears to be an invaluable tool in attacking the problems associated with speech evaluation.

Another tool used in this project was the Control Data Corporation 3600 model computer. Certainly it is this tool that made it possible to apply the techniques of factor analysis to the many combinations of data associated with the objectives of the research. The computer has provided ready access to particular sets of data and facilitated the checking, scoring, and storage of the 14,400 speech evaluations.

Finally and most importantly, the research to be described in the following pages had its financial support in the form of a grant from the United States Office of Education. While some will argue the priority of such support when there is a multitude of projects clamoring for funds, this writer feels that acceptance by reviewers, consultants and officers of the United States Office of Education of a project aimed at a significant problem within the discipline of Speech is an invigorating event for our field.

1.4 Design of Report

The remainder of this final report will be divided into four sections: The Preparation of Research Materials for the Project; The Logistics and Statistical Design of the Project; The Results of the Project; and Conclusions and Recommendations for Further Research.

II

THE PREPARATION OF RESEARCH MATERIALS FOR THE PROJECT

2.1 Film Preparation

In order to provide the students involved in the project with experience in speech evaluation it was decided to film some student speeches of varying quality. These films would then be shown to students from whom data would be gathered in order to secure their basis of classification through the evaluative criteria they deemed relevant to public speaking.

Students enrolled in Speech 305, Section 4 (Persuasion) for the Fall term of 1966 at Michigan State University were used in the preparation of the filmed public speeches to be used in the project. The students involved in this phase of the project were informed exactly what was to happen and how the films were to be used. They were asked to sign a release (see Appendix G) authorizing the recording and viewing of the films for the purposes of the research project. No students refused to participate in this phase of the project. Had any done so, they would have been transferred to another section of the same course with a different instructor. Mention of this point is made to establish in the mind of the reader that: (1) the students whose filmed speeches were to be used in the project were fully aware of the intended use; (2) the students were given an opportunity not to participate with no penalty; (3) the students signed releases of authorization of the taking of and subsequent use of films of their speeches.

The filming of the speeches took place in an especially designed classroom in the Michigan State University Audio-Visual Center. All sessions of the class met in these surroundings. The students first gave a speech that was not filmed. This was to acquaint them with the parameters of the physical setting under which the films were to be taken. As these first non-filmed speeches were given, the instructor attempted to identify particular types of speaking behavior which he desired to have the student duplicate on the occasion of the actual filming. A specific attempt was made to capture those aspects of public speaking which appeared to be related to the evaluative criteria contained on the speech rating form developed for the project.

In all, 19 films were made, one for each student in the class. The speeches filmed were all intended to be persuasive in nature. They were five to eight minutes in length and on topics selected by the students. All films were made in two class sessions. Dual track sound recordings were made and transferred to the films at the time of processing. This process assured a high quality of sound reproduction for the films used in the project.

2.2 Film Selection

The purposes of the project required the use of twelve filmed public speeches. The films were to be divided into four sets of three, each set representing three distinct quality variations. Once the films of the 19 student speeches had been developed, the process of film

selection was begun. In order to make the selections, members of the Rhetoric and Public Address staff and selected graduate students of Michigan State University* were asked to view the films and evaluate them in terms of the criteria contained on the speech rating form. The 19 films were evaluated by six raters in three sessions of approximately one hour each. The speeches were shown to the evaluators in the same order in which they were recorded. Because of the time length of the speeches the number viewed at each rating session was varied. In the first rating session for the purposes of selection six films were viewed, in the second session five films were viewed, and in the third and final session eight films were viewed and evaluated.

In each rating session during the process of film selection the evaluators were asked to judge each speech according to the criteria contained on the speech rating form to be used in the project. These ratings were to be based on a one to seven scale with 1 representing a low and 7 a high rating. In addition the evaluators were asked to classify the films which they saw as being low, middle, or high quality as compared to the type of speaking they were used to hearing in their own classrooms.

*Twelve members of the Rhetoric and Public Address staff who participated in the selection of the filmed speeches to be used in the project had previous experience in classroom speech instruction. In fact, most had been instructors in the basic speech course at Michigan State University. No one directly connected with the project was involved in the film selection aside from arranging the logistics of the viewings.

Using the statistical procedure called the Intraclass Correlation (see reference 5) the reliability of the six raters for each session was determined for each of the evaluative criteria and the classification variable (see reference 6). Table 2.2-1 represents the combined rater reliability on each evaluative criteria for the three rating sessions used in the process of film selection.

Using essentially the same procedure for determining the degree of classification consistency reliability coefficients of .95, .93, and .87 were obtained for rating sessions 1, 2, and 3 respectively. Since the judging reliability on the classification scale was quite high, that variable was used to select the twelve films on which further analysis would be run. The films so determined were those on which a consensus of judgment with respect to the classification variable was reached, and which, in keeping with the needs of the project, were of varying quality. The relatively high reliability of the judges across rating sessions on the evaluative criteria contained in Table 2.2-1 would seem to yield some justification for selecting films from each session for further analysis.

Table 2.2-2 represents the twelve films selected for further analysis according to the session in which they were evaluated as well as the quality (low, middle, high) classification they represented as judged by a consensus of the evaluators.

The further analysis of the films was in the form of comparing the within classification group rating variance to the between classification group rating variance on each of the evaluative criteria (see reference 10). This procedure yielded statistically significant (.05) differences among the film classifications on each of the 19 evaluative criteria. It should be noted that an assumption was made that the judge reliability on the evaluative criteria per rating session was sufficient to consider the raters involved in the process of the film selection to be interchangeable. Table 2.2-3 represents the means, and standard deviations for quality groupings of the films represented in Table 2.2-2.

As a result of the additional analysis it was decided that the 12 films representing the consensus classification judgments of the raters would be those used in the main research project. However, one problem remained for consideration, namely, the grouping of the selected films. The requirements of the project (as set forth in the project proposal) were such as to necessitate the grouping of the selected films into four sets (designated A, B, C, and D) of three films each (one film representing each of the classifications Low, Middle and High). In order to apply some degree of rigor to this process of film grouping the ratings given to the selected speech films were further analyzed using the statistical technique of Discriminant Analysis (see reference 10). Here the attempt was made to determine the number of discriminant functions which would maximize

the ratio of among to within classification group dispersion. Thus they would allow the plotting of the status of each film with respect to each discriminant function. This process then allowed the films to be grouped according to the requirements of the project in such a manner that each grouping tended to approximate the classification group dispersion.

Table 2.2-4 represents the assignments of the films to their respective sets by film number. Appendix B contains the student outlines of the supposed content of the speeches.

Once the films were assigned to their sets prints were obtained in sufficient number to allow each set of films to be shown in three different orders (each quality classification appearing once in first, second, and third positions). Further discussion of the various manipulations of the films will be handled in the section of this report devoted to the logistics of the project.

2.3 Development of the Questionnaire

In conjunction with that portion of the study dealing with the effects of training on the dimensionality of speech evaluation a student questionnaire was developed for the purposes of ascertaining: (1) The amount of academic training in speaking the student had prior to his participation in the project; (2) The student's self-perception of his abilities as a public speaker with particular reference to the evaluative criteria contained on the rating forms to be used by the student in the

evaluation of the filmed student speeches. In addition the questionnaire contained items which would aid the classification and storage of the study data.

The questionnaire (which later became the front side of the rating form) was pretested in the Fall of 1966 at Michigan State University. This pilot study took the form of the administration of the questionnaire to 326 students in the beginning speech courses and 83 students in advanced speech courses at Michigan State University. The objective of the pilot study was to ascertain the degree of difficulty in understanding what was being asked as reflected in mismarking the questionnaire. The results of the questionnaire were compared to other existing University records yielding similar data. For the most part the pilot study analysis with respect to information relating to student classification and previous training corresponded closely to the data yielded by other instruments not related to the project. One area which appeared to give some difficulty was that of correctly designating the major. It was decided, as a result of the pilot study, that this problem was best handled at the time of administration. It will be noted in a later section of the report dealing with the logistics of the project that special instructions to the administrator of the questionnaire were given. Appendix J contains a copy of the items comprising the questionnaire.

2.4 Development of the Self-Perception Scales

As noted previously, the students who participated in the pilot study

were asked to give their perception of themselves as speakers using the same criteria that would be used to evaluate the filmed speeches. The main purpose of this self-perception evaluation was to familiarize the students with the criteria as well as the format of the scales. It was felt that a self evaluation would provide the student with a meaningful example from which to make a judgment of other speakers. It was also reasoned that the data from the self evaluations would provide some clue as to the dimensionality of the rating instrument. Data from this particular phase of the pilot study were subjected to two types of analysis. The first analysis was simply a tabulation of the student responses to the individual scale items. This procedure allowed a determination of mismarking (a mis-mark being any character not between 1 and 7 inclusively). As a result of this analysis it was determined that mismarking was not an appreciable problem with respect to student responses to the evaluative criteria contained on the rating form and in the format represented by it. The second statistical procedure employed on the self-perception rating scales was that of factor analysis. Table 2.4-1 represents the means and standard deviations of both the beginning and advanced students for the 19 self-perception criteria used in the pilot study. Table 2.4-2 represents a four factor solution for the pilot study self perceptions of beginning speech students at Michigan State University.

Table 2.4-3 represents a five factor solution for the pilot study self-perceptions of students in advanced courses in public speaking at Michigan State University.

The results cited in Tables 2.4-2 and 2.4-3 indicated two things to the researchers: (1) students making judgments of themselves as public speakers using the evaluative criteria listed conceived of the rating instrument as multidimensional; (2) that the dimensionality of the rating instrument when used to reflect self perceptions could indicate a difference between students according to their training. Thus by evaluating his self perception as a public speaker the student could familiarize himself with the use of a multidimensional rating instrument.

The above discussion represents the rationale for the student questionnaire and its content format. Appendix J contains the self-perception scales.

The questionnaire and the self perception rating scales will be hereafter referred to as the front side of the project rating form (Appendix J).

2.5 Development of the Speech Rating Instrument

In September of 1966 work was begun on the expansion of the three dimensional rating scale used in the beginning course in public speaking at Michigan State University to include additional factors deemed relevant to the act of speech evaluation. Appendix D contains the criteria and format for the rating scale then in use at Michigan State. For the purpose of providing perspective on the rationale surrounding the use of rating scales in the evaluation of public speaking the following review of research in the area is offered.

2.6 Previous Research Dealing with Speech Rating Instruments

The field of Speech has long been concerned with the problems surrounding the evaluation of public speaking. This concern is evidenced by the many attempts to develop adequate speech rating scales for use both in and outside the classroom (Stevens, 1928; Norvelle, 1934; Monroe, Remmers, and Lyle, 1936; Bryan and Wilkie, 1941; Thompson, 1943-44; Fotheringham, 1956). However, it is relatively recently that researchers have approached the problem of speech evaluation from the point of view of factor analytical dimensions of the act. In 1957, Brooks used factor analysis as a technique for the identification and classification of items to be used on a forced-choice speech rating scale. While he made no attempt to establish the concept of dimensionality to the act of speech evaluation, Brooks' work did point to a methodology that appeared highly relevant to the issues surrounding that act. In 1962, Becker used the techniques of factor analysis in an investigation into rating scale independence. He was able to clearly establish that certain items traditionally associated with speech evaluation tended toward homogeneity, but could be clustered in such a manner as to produce heterogeneous factors of speech evaluation. He labelled these factors: "Content-analysis", "delivery", and "language".

Two studies in 1965 involved the use of factor analysis in order to select items for a rating scale. Price was interested in developing

an instrument which could be used to measure the speech attainment of students desiring to avoid taking the required course in basic public speaking at the University of Wisconsin. He went through the recent literature in the field of speech relating to the principles and concepts of public speaking and came up with thirty-four scale items. Using instructors of public speaking as evaluators and the thirty-four scale items as a basis for rating student speakers, Price was able to identify, via the techniques of factor analysis, six factors of speech evaluation. They were: reasonableness, intelligibility, bodily action, social acceptability, language, and voice. He was also able to demonstrate that a high degree of reliability could be obtained on these factors by pooling the ratings of the speech evaluators. Johnson, Lashbrook, and Ralph were interested in developing a speech rating scale based on student generated items. They used factor analysis to first discover the dimensions of student evaluation and then used these results as a basis for the selection of items to be included on a speech rating scale. Results of this investigation indicated that students in the first half of a basic course in public speaking tend to evaluate speeches on three factor dimensions. These were labelled: "materials of development", "materials of experience", and "personal proof". It is this study that produced the rating scale in use in the basic course at Michigan State University (see Appendix D).

The results of this study confirmed the findings of Price with

respect to the reliability of factor analytically selected scale items. In an effort to determine the objectivity of their scale, Johnson, Lashbrook, and Ralph had students evaluate filmed speeches of known varying qualities to see if the items could be used to make distinctions between the presentations. Assuming no more than ordinal scaling, they showed that students were able to rank the speeches as "high", "middle", and "low", and that this ranking corresponded to that coming from the independent determination of the quality of the filmed presentations at another university.

In general, it could be said of the research in the field of speech with respect to speech evaluation:

1. Dimensions of speech evaluation do exist and are identifiable by factor analytical techniques.
2. The instruments for measuring these dimensions have not been yet fully developed. Items on the rating scales and factor labels tend to vary with the researcher and the objective of his study.
3. The variance in the number of dimensions between studies might be accounted for in terms of speech training and/or the material from which scale items are selected.
4. Methods do exist for determining the objectivity of dimensional speech evaluation, but little has been done to determine the influences of multidimensionality on scale objectivity.

2.7 Selection of Items to be Used on Speech Rating Form

As was mentioned previously, an attempt was made in the Fall term of 1966 at Michigan State University to expand the rating scale

developed by Johnson, Lashbrook and Ralph. The research previously done on the scale had indicated that it could represent a three dimensional speech evaluation instrument and account for as much as 75% of the variance when used by students to evaluate filmed as well as live classroom speech performance. It appeared, furthermore, that the three dimensional aspects of the scale seemed to hold given varying qualities of the performance being judged. Using the results of Price, who arrived at six factor analytic dimensions of speech evaluation, it was decided that the best method for increasing the dimensionality of the then Speech 101 rating instrument was to incorporate some of the items used by Price to represent specific factors not represented on the existing scale. Price had found a detectable area of speech evaluation which he labelled as the language factor. Using the standard rhetorical concept of style as the best language correlate the items word choice, vividness, imagination and interest were added to the scale. Price had also found a dimension of speech evaluation which he labelled the voice factor. In order to incorporate this dimension into the then existing scale the following items were added: diction, vocal inflection, and fluency. Finally, an attempt was made to add a visual aspect to the rating scale. In the development of the original scale used in the beginning speech course at Michigan State University, Johnson, Lashbrook and Ralph had attempted to isolate the visual aspect of speech evaluation but with little success.

However, it was felt that another attempt should be made to represent this factor. Using the factor analytic results of both the Price and the Johnson, Lashbrook, and Ralph studies, the following items were selected to represent the visual aspect of speech evaluation: physical appearance and bodily movement.

It was hoped that the addition of the above stated items would yield somewhere between a three and six dimensional rating form. Such a range was viewed as sufficient for the project particularly if the number of dimensions of the rating form used in the actual evaluation of speeches appeared to vary within that range.

2.8 Factor Analysis Results of the Use of the Rating Form in the Pilot Study

Once the decision was made as to what items should be included on the speech rating form, an attempt was made to explore the dimensionality of the instrument by having students in both beginning and advanced courses in public speaking at Michigan State University use the scale in the evaluation of classroom performances. This phase of the pilot study came approximately five weeks into the term for the respective courses. In total 453 evaluations were made by students in the beginning course and 192 evaluations by students enrolled in advanced courses.*

*The beginning course in public speaking at Michigan State University is Speech 101-Public Speaking. The advanced courses used to provide pilot study data were Speech 305-Persuasion and Speech 309-Argumentation.

Table 2.8-1 represents the means and standard deviations for the respective scale items as used in the pilot study. It should be noted that the students in the advanced courses appeared to give consistently higher ratings to the speeches they observed than did the beginning speech students. However, there was no consistent difference between the standard deviations of the two training levels represented. This result would seem to be expected since students enrolled in the advanced courses had almost all completed a basic course in public speaking. It is probably also the case that the students who enroll in advanced courses probably did well in the beginning prerequisites to that course. It is interesting to note that advanced students also rated themselves consistently higher than those students in the beginning course (see Table 2.4-1).

Table 2.8-2 represents a three factor solution for the beginning speech students and Table 2.8-3 a three factor solution for the advanced students who participated in this phase of the pilot study. A three factor solution for both training levels was first examined in order to determine what effect the additional items would have on the factor structure of the items appearing on the original Speech 101 scale (see Appendix D). It was concluded that the effect of adding items to the original rating form did allow for a slight redefinition of factor content, but the result was not in terms of reducing dimensionality. It was decided to continue to extract factors by rotation for the data

of the beginning and advanced students as long as a meaningful factor content could be established.

Table 2.8-4 represents the four factor solution for the same data represented by Table 2.8-2. The four factor solution seemed most appropriate for three reasons: First, it was the solution that yielded the largest number of factors represented by at least two items loading highest on a dimension. Second, the self-perceptions of the beginning speech students also suggested a four factor solution. Third, the extraction of a fourth dimension resulted in the least reduction of factor content when compared to the three factor solution for the same data.

Tables 2.8-5 and 2.8-6 represent four and five factor solutions respectively for the data stemming from the advanced students who participated in the pilot study. Both of these solutions were examined in order to establish a base of comparison with those results stemming from data provided by the beginning students who participated in the pilot study. However, using the same criteria cited in the establishment of a meaningful factor solution for the beginning students it is apparent that the advanced data are best represented by Table 2.8-6. It should also be noted that a five factor solution for the advanced data accounted for approximately the same amount of variance as the four factor solution for the beginning students.

The purpose of the factor analyses of the pilot study was two-fold: (1) to determine whether the items selected to be included on the rating.

form would represent somewhere between three and six dimensions of speech evaluation; (2) to determine whether the content of the factors within given solutions as well as the strength of those factors suggested differences between rating groups. This two-fold purpose appears to have been met.

2.9 Section Summary

In order to determine the effects of training and proficiency on the dimensionality of speech evaluation, several different types of research instruments needed to be developed. The researcher was most interested in determining the influence of the major variables as they affected student judgment of varying qualities of public address.

Considerable time and expense went into the development of films of student speeches. The objective was to select 12 films representing three qualities of student speaking: high, middle, and low. The process of film selection involved teachers of public speaking who viewed the films and made judgments by criteria eventually to be included on the speech rating form of the project. The films finally selected for the project represented the most consistent judgments of the reviewers with respect to the nominal classifications of high, middle, and low qualities of presentation as well as ratings given on the evaluative criteria selected for inclusion on a speech rating form.

In order to determine the previous training of the students who would eventually provide data for the project a questionnaire was developed. This questionnaire was administered in a pilot study to determine whether there were any avoidable problems with respect to marking the instrument. Some minor problems were discovered and the proper format adjustments made. As part of the questionnaire a student's perception of himself in terms of the criteria to be used on the speech rating was sought. While this self perception was not integral to the purposes of the study it was considered by the researcher to be a clue to the dimensionality of the evaluative criteria as well as a method for familiarizing the students with the rating instrument to be used in the film evaluations. The self-perception data from the pilot study were subjected to factor analyses.

The development of the actual speech rating form was based for the most part on previous factor analytic studies done at the University of Wisconsin and Michigan State University. The items selected for inclusion on the rating instrument were aimed at the establishment of a multifactoral approach to speech evaluation. The items were placed on a rating form and administered as part of the pilot study to students in beginning and advanced courses in public speaking at Michigan State University. The students were asked in the case of the pilot study to evaluate the actual classroom performance of their peers.

As a result of the factor analyses of the pilot study data the following conclusions were drawn with respect to the developed rating scale for the evaluation of public speaking.

- (1) The addition of items to the three dimensional scale developed at Michigan State University prior to the pilot phase of the project did not reduce the dimensionality of the instrument.
- (2) There was sufficient evidence to indicate that the developed instrument yielded as many as five factor solutions which, given the appropriate criteria, (to be discussed in a later section of this report) might well point to differences between rating groups.
- (3) The contents of the factors within particular solutions were sufficiently variable to suggest differences between rating groups.
- (4) The strength of particular factors in terms of accountable variance was sufficiently variable to suggest differences between rating groups.

The above conclusions seemed in keeping with the intended objectives of the proposed research. Therefore, it was decided to use the questionnaire, self perception scales, and rating form as developed in the pilot study. It should be noted that as these instruments were being developed so were the procedures for scoring and handling of data.

References for Section II

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TABLES FOR SECTION II

TABLE 2.2-1
Judging Reliability Per Rating Session
Film Selection

Criteria	Session		
	1	2	3
Total Effect	.648	.911	.876
Attitude	.742	.727	.854
Bodily Movement	.458	.902	.784
Diction	.809	.922	.820
Enthusiasm	.837	.877	.872
Evidence	.629	.828	.697
Eye Contact	.917	.890	.785
Facial Expression	.885	.861	.796
Fluency	.886	.914	.839
Imagination	.756	.913	.906
Interest	.818	.700	.842
Logical Reasoning	.812	.855	.695
Organization	.792	.875	.807
Physical Appearance	.883	.737	.866
Poise	.817	.962	.757
Preparation	.732	.915	.825
Vividness	.659	.859	.898
Vocal Inflection	.800	.740	.772
Word Choice	.829	.959	.861

TABLE 2.2-2
Selected Films by Quality Classification and Rating Session
Film Selection

Rating Session 1			Rating Session 2			Rating Session 3		
Film No.	Quality		Film No.	Quality		Film No.	Quality	
1	High		8	Low		12	Middle	
2	High		18*	High		13	Low	
3	Middle					14	Middle	
4	Low					15	High	
6	Low					16	Middle	

*Speaker number 18 spoke out of order for the round of speeches that were filmed and thus appeared before the raters in session two rather than session three in the process of film selection.

TABLE 2-2-3
Judging Discrimination Per Quality Group
Means and Standard Deviations
Film Selection

Evaluative Criteria	Low		Quality Group		High	
	x	sd	x	sd	x	sd
Total Effect	2.08	0.6	3.33	0.9	4.46	1.3
Attitude	2.83	.9	3.79	0.9	4.71	1.2
Bodily Movement	2.04	0.7	3.21	1.3	4.00	1.2
Diction	2.50	0.8	3.33	0.8	3.88	1.3
Enthusiasm	2.38	0.9	3.04	.9	4.33	1.2
Evidence	2.33	.9	3.38	1.2	4.38	1.7
Eye Contact	2.04	.9	3.46	1.3	4.54	1.3
Facial Expression	2.04	.9	3.04	1.1	3.96	1.3
Fluency	1.96	0.7	2.92	1.2	4.42	1.2
Imagination	2.17	0.8	2.92	1.0	4.58	1.0
Interest	2.46	0.9	3.33	1.1	5.00	1.2
Logical Reasoning	2.17	0.8	3.25	1.3	4.13	1.6
Organization	2.54	1.0	3.50	1.2	4.92	1.1
Physical Appearance	2.54	1.2	4.17	1.0	4.88	1.3
Poise	2.17	.9	3.50	1.2	4.50	1.4
Preparation	2.46	0.8	3.38	1.0	4.92	1.4
Vividness	1.91	0.7	2.67	1.1	4.38	1.2
Voice Inflection	2.12	0.9	3.00	1.0	4.33	1.2
Word Choice	2.17	0.7	3.42	0.8	4.58	1.1

TABLE 2.2-4
Film Assignments to Film Sets
Film Selection

Film Set	Quality Classifications		
	High	Middle	Low
A	18	3	13
B	2	12	8
C	15	14	6
D	1	16	4

TABLE 2.4-1
MEANS AND STANDARD DEVIATIONS PILOT STUDY SELF-PERCEPTIONS
Beginning and Advanced Students

Criteria	Beginning Students		Advanced Students	
	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	4.29	1.1	4.84	1.3
Attitude	4.79	1.2	5.35	1.2
Bodily Movement	4.11	1.1	4.63	1.1
Diction	4.24	1.1	5.02	1.0
Enthusiasm	4.70	1.2	5.40	1.5
Evidence	4.22	1.1	4.58	1.3
Eye Contact	4.53	1.3	5.05	1.5
Facial Expression	4.29	1.2	4.77	1.5
Fluency	4.05	1.2	4.65	1.1
Imagination	4.41	1.3	5.12	1.1
Interest	4.85	1.3	5.23	1.2
Logical Reasoning	4.28	1.1	4.56	1.4
Organization	4.39	1.1	4.81	1.2
Physical Appearance	4.79	1.2	4.88	1.3
Poise	4.29	1.2	4.65	1.4
Preparation	4.59	1.1	4.88	1.4
Vividness	4.11	1.0	4.58	1.2
Vocal Inflection	4.19	1.2	4.79	1.4
Word Choice	4.14	1.1	4.84	1.2

TABLE 2.4-2
 FACTOR ANALYSIS FOR PILOT STUDY SELF-PERCEPTIONS
 BEGINNING SPEECH STUDENTS
 4 Factor Solution - 326 Observations

Criteria	I	II	III	IV	V	Total
Total Effect				-.4706		
Attitude		.7092				
Bodily Movement	.7022					
Diction	.6937					
Enthusiasm		.7660				
Evidence			.7603			
Eye Contact		.5936				
Facial Expression	.6969					
Fluency	.7537					
Imagination				-.6406		
Interest		.7944				
Logical Reasoning			.7273			
Organization			.6900			
Physical Appearance				-.7657		
Poise	.5481					
Preparation				-.5427		
Vividness	.5808					
Vocal Inflection	.7704					
Word Choice			.5779			
Variance	23	16	14	13		
Eigenvalues	8.3	1.7	1.5	.9		66

TABLE 2.4-3
 FACTOR ANALYSIS FOR PILOT STUDY SELF-PERCEPTIONS
 ADVANCED SPEECH STUDENTS
 5 Factor Solution - 83 Observations

Criteria	Factor					Total
	I	II	III	IV	V	
Total Effect			.6369			
Attitude	.7876					
Bodily Movement		.6575		.7967		
Diction	.8123				-.7707	
Enthusiasm						
Evidence		.8772		.7031		
Eye Contact			.8029			
Facial Expression						
Fluency						
Imagination	.5163					
Interest	.7452					
Logical Reasoning					-.8051	
Organization					-.6837	
Physical Appearance				.6998		
Poise				.6307		
Preparation				.4818	-.6996	
Vividness			.4971			
Vocal Inflection			.7499			
Word Choice						
Variance	17	12	17	17	16	79
Eigenvalues	9.8	2.0	1.3	1.0	.9	

TABLE 2.8-1
Pilot Study
MEANS AND STANDARD DEVIATIONS PILOT STUDY FOR
BEGINNING AND ADVANCED STUDENTS

Criteria	Beginning		Advanced	
	$\bar{X}$	SD	$\bar{X}$	SD
Total Effect	4.40	1.2	4.96	1.1
Attitude	4.49	1.1	5.17	1.1
Bodily Movement	4.10	1.2	4.30	1.2
Diction	4.30	1.1	4.93	1.1
Enthusiasm	4.42	1.2	5.02	1.3
Evidence	4.79	1.2	5.00	1.5
Eye Contact	4.34	1.3	4.78	1.3
Facial Expression	4.16	1.2	4.53	1.2
Fluency	4.32	1.2	4.81	1.1
Imagination	4.49	1.2	4.73	1.3
Interest	4.63	1.1	5.18	1.3
Logical Reasoning	4.53	1.2	4.73	1.3
Organization	4.68	1.1	4.87	1.3
Physical Appearance	5.26	1.0	5.52	1.1
Poise	4.56	1.2	4.98	1.1
Preparation	4.79	1.3	5.26	1.2
Vividness	4.31	1.2	4.91	1.2
Vocal Inflection	4.35	1.3	4.81	1.1
Word Choice	4.50	1.1	4.73	1.3

TABLE 2.8-2
 FACTOR ANALYSIS FOR PILOT STUDY DATA
 Beginning Students
 3 Factor Solution-453 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect	.5898			
Attitude	.7061			
Bodily Action	.6120		.5974	
Diction				
Enthusiasm	.8238			
Evidence		.6626		
Eye Contact	.6118			
Facial Expression	.7720			
Fluency	.5218			
Imagination	.6542			
Interest	.7510			
Logical Reasoning		.7788		
Organization		.7632		
Physical Appearance			.7758	
Poise			.6334	
Preparation		.6481		
Vividness	.7130			
Vocal Inflection	.7200			
Word Choice		.5672		
Variance	31	20	15	66
Eigenvalues	10.3	1.4	.8	

TABLE 2.2-3
 FACTOR ANALYSIS FOR PILOT STUDY DATA
 Advanced Students
 3 Factors--192 Observations

Criteria	I	II	III	Total
Total Effect	.5973			
Attitude	.5497			
Bodily Movement			-.7663	
Diction		.7494		
Enthusiasm			-.6357	
Evidence	.7308			
Eye Contact		.3553		
Facial Expression		.6838	-.6811	
Fluency				
Imagination	.6012			
Interest	.6940			
Logical Reasoning	.7788			
Organization	.7610			
Physical Appearance		.6851		
Poise		.7846		
Preparation	.7189			
Vividness	.5540			
Vocal Inflection			-.5449	
Word Choice			-.5401	
Variance	25	17	17	59
Eigenvalues	8.2	1.7	1.3	

TABLE 2.8-4
 FACTOR ANALYSIS FOR PILOT STUDY DATA
 Beginning Students
 4 Factor Solution--453 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5817				
Attitude	.7050				
Bodily Movement	.6233				
Diction			.5234		
Enthusiasm	.8210				
Evidence				-.7823	
Eye Contact	.6140				
Facial Expression	.7752				
Fluency		.5959			
Imagination	.6408				
Interest	.7395				
Logical Reasoning				-.6370	
Organization		.6247			
Physical Appearance			.7939		
Poise			.5570		
Preparation		.7111			
Vividness	.6960				
Vocal Inflection	.7186				
Word Choice		.6423			
Variance	31	17	12	10	70
Eigenvalues	10.3	1.4	.8	.7	

TABLE 2.8-5
 FACTOR ANALYSIS FOR PILOT STUDY DATA
 Advanced Students
 4 Factors--192 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.6311				
Attitude	.5562				
Bodily Movement			-.7537		
Diction		.7677			
Enthusiasm			-.6247		
Evidence	.7326				
Eye Contact				.6978	
Facial Expression				.6448	
Fluency		.6813			
Imagination	.5965				
Interest	.6602				
Logical Reasoning	.7884				
Organization	.7615				
Physical Appearance		.6573			
Poise		.7681			
Preparation	.7294				
Vividness	.5465				
Vocal Inflection			-.5435		
Word Choice			-.5761		
Variance	25	16	16	7	64
Eigenvalues	8.2	1.7	1.3	1.0	

TABLE 2.8-6
 FACTOR ANALYSIS FOR PILOT STUDY DATA
 Advanced Students
 5 Factors--192 Observations

Criteria	Factors					Total
	I	II	III	IV	V	
Total Effect	.6297				-.5575	
Attitude						
Bodily Movement			-.7313			
Diction		.7932			-.6128	
Enthusiasm						
Evidence	.7770			.8219		
Eye Contact				.4932		
Facial Expression						
Fluency		.6767			-.7532	
Imagination					-.7437	
Interest						
Logical Reasoning	.6771					
Organization	.7198					
Physical Appearance		.6607				
Poise		.7159				
Preparation	.7050				-.5624	
Vividness						
Vocal Inflection			-.5458			
Word Choice			-.7108			
Variance	18	16	13	7	15	69
Eigenvalues	8.2	1.7	1.3	1.0	.8	

III

The Logistics and the Statistical Design of the Project

3.1 Procedures for Involving Universities in the Project

Once the researcher was relatively assured that films, questionnaire, and rating form were in their final stages of development, consideration was given to the procedures under which institutions other than Michigan State University could be involved in the project. At a meeting of the Research Board of the Speech Association of America held in East Lansing in September 1966, the members of that board agreed to aid the researcher in enlisting universities and colleges in the project. The original intent was to involve the Big 10 universities only. However, one member of the research board suggested that such a conference parameter was not necessary to the project and that since project participation involved scheduling around normal academic activities the researcher would be wise to use available and established Departments of Speech regardless of their various alignments. The researcher decided that he was under some obligation to stay within the confines of the original proposal and would extend beyond the Big Ten if those institutions in that conference were unable or unwilling to participate in the project.

In November of 1966 a letter was addressed to the chairman of each Department of Speech in the Big Ten Conference. This letter briefly explained the project and its objectives and asked the addressees whether their departments would be willing to participate.

The letter went on to ask each chairman to designate a member of his staff who could be contacted by the researcher with respect to the possible involvement of his department in the project.

Appendix E represents the content of the initial letter of request.*

As a result of the initial letter of request four institutions indicated that they would be unable to participate in the project during the 1966/67 academic year. The remaining institutions expressed a willingness to participate if their schedules and that of the project would permit. Each institution willing to participate designated a member of its staff to discuss the logistics of the project with the researchers at the 1966 Convention of the Speech Association of America to be held in Chicago.

After meeting with the representatives of those Speech Departments whose chairmen had agreed to participate in the project, it was determined that only in the cases of seven of the institutions could the schedule of the project be brought in line with the academic calendar of the departments. It was decided after the SAA Convention to attempt to recruit other institutions than those in the Big Ten in order to fulfill the purpose of the project with respect to adequate sample size and academic variability. Three criteria were used to select those institutions which would be asked to participate in the project beyond those covered by the original letters of request.

*The initial letter of request was also sent to the University of Pittsburgh because of the desire of its then Chairman, Dr. Jack Mathews, to participate in the project.

These criteria were:

- (1) The academic calendar of the institution in relation to the intended logistics of the project.
- (2) The availability of students in both beginning and advanced courses in public speaking that involved performance.*
- (3) The willingness of a member of the staff of the institution to supervise the administration of the project.

As a result of the application of the above criteria two additional institutions were added to the seven previously enlisted. Appendix E contains a list of representatives of those institutions ready to participate in the project.

3.2 The Logistics of the Project

The original intent of the project was to have students enrolled in the basic public speaking course evaluate the prepared films using the developed rating scale. They were to evaluate one set of films at the beginning of the course and another set at the end. In addition, students enrolled in advanced courses in public speaking (courses with a prerequisite of a basic course in public speaking) at the participating institutions would be asked to evaluate a set of the filmed speeches at the end of their course. The design of the research was such that all 12 films would be subjected to

*This criteria was later to rule out the inclusion of one institution which originally agreed to participate in the project.

evaluation at all the training levels represented by the students involved in the research.

Logistically, the gathering of data was divided into two phases. The first phase of the project (designated the pretest) involved students enrolled in the basic speech courses at participating institutions. The pretest was administered during the first week of classes. Approximately half of the students constituting this population were shown a set of three films, each set representing high, middle, and low qualities of speaking. For the pretest each school was sent three reels of film. Each reel contained the films of a given set arranged in a different order for showing. Appendix F represents the instructions that were used in the administration of the pretest at participating institutions. Table 3.2-1 represents the assignment of film sets to the various schools in the pretest phase of the project.

The second phase of the project (designated the posttests) involved: (1) students enrolled in a basic public speaking course who had participated in the pretest research; (2) the students enrolled in the same courses as represented in the phase I but who had not participated in the pretest; and (3) students enrolled in advanced public speaking courses at the participating institutions. The posttests were administered during the final week of classes.

Table 3.2-2 represents the assignment of film sets to the basic students who did not participate in the pretest. This division of the posttests was designated posttest1. It will be noted that the films shown in posttest1 were the same as those shown in the pretest for the respective institutions.

Table 3.2-3 represents the assignment of film sets to the basic students who had participated in the pretest. This division of the posttests was designated posttest2. It will be noted that the films shown in posttest2 were different from those shown in the pretest for the respective institutions.

Table 3.2-4 represents the film set showings for phase II of the project to those students enrolled in advanced courses in public speaking at the institutions participating in the project. This division of the posttests was designated the advanced condition of the research. It will be noted that the films shown in the advanced condition were the same as those shown in the pretest and posttest1 conditions for the respective institutions.

Appendix G represents the instructions that were used in the administration of phase II of the project at participating institutions.

The logistics of the project were such as to represent three training levels in public speaking: (1) students prior to training in a basic course in public speaking; (2) students immediately after training in a basic course in public speaking; and (3) students immediately after training in an advanced course in public speaking

for which a basic course was prerequisite. Furthermore, for one of the film sets shown at each institution the speeches were evaluated by students at all training levels.* For each institution there was a replication of the posttest involving a second set of films for students completing the basic course. This would allow for an examination of the effects of learning to use the rating form as opposed to actual training received in public speaking. Finally, taking the institutions as a group, all film sets were used in all four data-gathering conditions.

The questionnaire and self-perception scales were filled out by the students for the pretest, posttest1, and advanced conditions of the research.

One of the purposes of the project dealt with determining the effect of proficiency in public speaking on the dimensionality of speech evaluation. The attainment of this purpose involved the use of the final grades that the students received in their respective courses as the measure of speech proficiency. Records of the grades for the students who participated in the project were forwarded to the researchers by the institutional contact some time after the administration of the posttests. (see Appendix A).

*As in the case of the pretest the films shown in the posttests were arranged in three different orders with respect to viewing. This procedure allowed for each speech quality to be viewed at least once as the first, second, or third viewed speech by the student evaluators.

3.3 Techniques for Data Processing

As data were received from the participating institutions they were checked thoroughly to make sure that the questionnaires and rating scales were correctly marked. In those cases where the participating institutions did not use a six digit student identification number one was assigned to the student data in such a manner that each was unique to one student and yet consistent across all data for the student. Data were then stored, with further processing deferred until that time when the grades for all students who participated in the project in the various courses at a specific institution were forwarded to the researchers by the institutional contacts.

Beginning in July of 1967 data from the first eight replications of the project were submitted to the Michigan State University Office of Education Services for scoring by an IBM 1230 Optical Scanner. Output from this stage of processing was in the form of punched cards. These cards were then transformed by the MSU Control Data Corporation 3600 computer under the control of a FORTRAN program especially developed for the project (see Appendix H). Output from this stage of processing was again punched cards, but this time in a format suitable for analysis by the statistical procedures of the project.

As part of the data processing stage of the project, all transformed

data were tabulated by the computer under the control of a program geared to examining the content of each data card. This procedure allowed the researcher to check for illegal characters in the data caused by mismarked questionnaires and rating scales. This process also allowed the researcher to examine the distribution of the data with respect to particular institutions. Here an attempt was made to determine whether the data from any particular institution were so unique as to prevent inclusion in the final analysis.

Originally the plan of the project was to store all data on magnetic tape and then use such tape as the input medium for the statistical analysis developed for the project. However, as the data for the project were being processed, the Michigan State University Computer Laboratory was undergoing significant modifications of design and procedure which made it impractical to store the data of the project on magnetic tape. Thus, data remained stored on punched cards and these became the prime medium for input for statistical analysis. However, for many of the factor analyses of the project data were transformed from punched cards to a magnetic tape for further processing. The tape was released in each case after the appropriate analysis. Appendix I represents the FORTRAN program used in the transfer of data from punched cards to the magnetic tape.

3.4 Statistical Design of the Project

The basic statistical procedure used for the project was that of factor analysis. Specifically the research was aimed at discussing the dimensions of speech evaluation as used and viewed by students of public speaking. Also of prime interest was the determination of the effects of training and proficiency in public speaking on the dimensionality of speech evaluation again in relation to students.

The purpose of this article of the report is to consider the appropriateness of the statistical procedure of factor analysis for the intended research. The use of the technique of factor analysis as a means of determining common dimensions of evaluation is a relatively recent development in the field of Speech, but has often been used by psychologists in the area of measurement:

Many psychologists have engaged in extensive testing programs, employing factor analysis to determine a relative small number of tests to describe the human mind as completely as possible. The usual approach includes the factor analysis of a large battery of tests in order to identify a few common factors. Then the tests which best measure these factors, or, preferably, revised tests based upon these, may be selected as direct measures of factors of the mind. (see reference 3)

The use of the techniques of factor analysis for derivation of items on a speech rating scale is exemplified by the work of Price at the University of Wisconsin. In his study, he used factor analysis as a method for examining the intercorrelations among thirty-four

items contained on an experimental rating scale. It will be recalled from the discussion of the development of the rating scale for the project that the work of Price as well as that of Johnson, Lashbrook and Ralph was used in the development of the evaluative criteria that were used on the speech evaluation scale. The reason for factor analyzing the results of student evaluation of the filmed speeches was to determine the intercorrelation of the evaluative criteria with a view toward determining the effects of certain nominal variables on the dimensionality of the rating scale as developed. For the purpose of the research a dimension of speech evaluation was defined as a cluster of evaluative criteria highly correlated with one another and less correlated with clusters of criteria representing other dimensions. Ideally, the items relating to one factor dimension should have a zero correlation with items representing another such dimension. With the interest of determining the solution which approaches this ideal a technique known as rotation is usually employed. It is the use of rotation that generally leads to reproducible factor structure or at least points to a legitimate method for comparing results from one factor analysis to another. Since such a comparison was essential to the research herein, a method of orthogonal rotation was employed for the purposes of interpreting data. (see reference 1) Via this process of rotation analysis the number of factors represented by the data could be determined. By maintaining a 90° angle for the

extraction of the factors one can maximize the degree of association between criteria highly correlated with a given factor and minimize the association with factors representing other evaluative criteria. This measure of association is known as a factor loading. Thus for each extracted factor there is a factor loading for each evaluative criterion contained on the rating scale. As that loading approaches 1.00 the degree of association of the criterion with the factor (in terms of the cluster of items it represents) approaches the ideal.

Employment of rotation in the interpretation of the results of factor analysis does demand the use of some objective criteria for determining when to stop extracting factors. This issue is often phrased as the question "which solution is best to use?" For the purposes of determining the most appropriate solution under the conditions of the study the following criteria were used:

- (1) For each factor identified there should be a minimum of two evaluative criteria with their highest loadings on that factor.
- (2) The solution chosen should maximize the number of evaluative criteria loading .50+ on the factors represented by that solution.
- (3) The solution chosen should maximize the amount of variance accounted for within the framework of criteria 1 and 2.

- (4) The solution chosen should result in some type of meaningful comparison with solutions meeting criteria 1-3 but representing different levels of the research in terms of training and proficiency in public speaking.

To the reader criterion number four might appear to be somewhat subjective. Guilford speaks directly to the rationale for the employment of such a criterion.

In an unexplored domain where factors and their relations to tests are not yet known, lacking objective criteria, one may try out one hypothesis as to meaning after another until some solution seems satisfactory. The injunction of meaning, even of this hypothetical type, may lead to a final solution that also seems good objectively. (see reference 2)

In addition to factor analysis the researchers were also interested in determining the effects of the prime variables of training and proficiency in public speaking on the reliability of the raters when viewing the filmed speeches. In order to determine the rating reliability of the students under the conditions of the research a technique known as the Intraclass Correlation was used.

Many investigators seem to prefer the operation of correlating ratings obtained from different raters as the approach to reliability of ratings. There may be common bias among raters, but this source of error correlation is probably smaller than in re-ratings. One has to assume that raters involved in the reliability study are interchangeable. Since raters with similar types of information are generally used for this purpose, this assumption is not unreasonable. (see reference 2)

A special computer program entitled CENTRA was employed in the determination of the rating reliability of the students when viewing each set of films under the conditions of the project at each of the participating institutions. (see reference 5).

Data coming from the student questionnaires were tabulated by the computer and used primarily to classify the student raters with respect to their previous training in public speaking. No statistical analyses were performed on the student questionnaires. Results of the tabulations will, however, be reported in the following section of this report.

The self-perception ratings given by the students in the pretest, posttest1, and advanced conditions of the research were also subjected to factor analysis.

3.5 Summary of Section.

The following should be considered the prime objectives of the research:

1. To determine specific dimensions of speech evaluation which can be used to make objective distinctions between varying qualities of public speaking.
 - a. What is the relationship between the dimensionality of the speech act and the type of scaling used to evaluate it?
 - b. Will dimensionality vary significantly with a varying quality of speech presentation?

2. To determine the nature of the relationship between training in speaking and the recognition and use of dimensions of speech evaluation which make distinctions between varying qualities of public speaking.
 - a. Is there a difference between how students perceive the dimensionality of the speech evaluation before and after a basic college speech course?
 - b. How much and what kinds of speech training are needed in order to broaden and/or refine a student's perception of the dimensionality of speech evaluation?
3. To determine the nature of the relationship between developed proficiency in public speaking and the ability to recognize and use objective dimensions of speech evaluation.
 - a. Do good student speakers perceive the dimensionality of speech evaluation differently than do poorer student speakers?
 - b. Do training in speaking and demonstrated proficiency in speaking make different types of contributions to how a student speaker perceives the dimensionality of speech evaluation?

The basic data for the research were student evaluations of filmed speeches using a rating scale developed specifically for the project. The films were also specifically developed for the project.

The independent variables for the research were: (1) The stages of speech training represented by those students evaluating the filmed speeches; (2) The demonstrated speech proficiency represented by the students evaluating the filmed speeches as measured by their final grades in those courses used in the research (See Appendix A).

The dependent variables for the research were: (1) The number of identifiable dimensions (factors) used in the evaluation of the filmed speeches; (2) the consistency of factor structure (as represented by the factor loadings) determined via orthogonal rotation; (3) The percentage of rating variance accounted for by the factors used in the evaluation of the filmed speeches; (4) The reliability of ratings for each evaluative criterion used in the evaluation of the filmed speeches.

References for Section III

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2. Guilford, J. P. Psychometric Methods. 2nd ed. New York: McGraw Hill, 1954, p. 509 (Factor Analysis), p. 395 (Intraclass Correlation).
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4. Johnson, F. Craig, Lashbrook, William B. and Ralph, David C., "The Use of Peer Ratings in a Public Speaking Course." Unpublished manuscript, Speech Communication Research Laboratory, Michigan State University, 1966.
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6. Price, William K. "The University of Wisconsin Speech Attainment Test." Unpublished Ph.D. dissertation, University of Wisconsin, 1965.
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TABLES FOR SECTION III

TABLE 3.2-1
Film Set Showings and Actual Sample Sizes
Pretest

Institution	Film Set and Sample Sizes					
	A	n	B	n	C	n
*1	x	333				
*2			x	315		
3	x	215				
4					x	46
5			x	81		
6			x	93		
7					x	277
8					x	117
*9					x	334
Totals		548		489		394
						1811

*Represents films shown at the same institution for different terms.

TABLE 3.2-2
Film Sets for Beginning Speech Students Not in Phase I
and Actual Sample Sizes
Posttest1

Institution	Film Set and Sample Sizes				
	A	n	B	n	C
*1	x	234			
*2			x	249	
3	x	202			
4					x
5			x	78	
6			x	101	
7					x
8					x
*9					x
Totals		436		428	314
				297	1475

*Represents films shown as the same institution for different terms.

TABLE 3.2-3
 Film Set for Beginning Speech Students Who Participated in Phase I
 of Project and Actual Sample Sizes
 Posttest2

Institution	Film Set and Sample Sizes				
	A	n	B	n	C
*1			x	144	
*2	x	112			
3			x	205	
4					x 37
5	x	95			
6	x	53			
7					x 202
8					x 100
*9					
Totals		260		349	37 302 948

TABLE 3.2-4
Film Set Showings for Advanced Students and Actual Sample Sizes
ADVANCED

Institution	Film Set and Sample Sizes					
	A	n	B	n	C	D
*1	x	133				
*2			x	38		
3	x	89				
4					x	28
5			x	19		
6			x	37		
7					x	27
8					x	26
*9						x 54
**10						x 111
Totals		222		94	53	193
						562

*Represents films shown at the same institution for different terms.

**Institution 10 provided data from advanced students only.

IV

RESULTS

4.1 The Strategy for Reporting Results

In developing a strategy for reporting the results of the research three rather significant decisions were made:

- (1) The results of the questionnaire would be used only to determine the possible descriptive differences between the beginning and advanced students who participated in the project.
- (2) All results would be limited to the reporting, in as objective a manner as possible, those types of statistical data most relevant to the basic design of the project (see Section III).
- (3) The factor analyses and reliability results as reported would always reflect the conditions under which the project data were actually collected (pretest, posttest1, posttest2, and advanced).*

The information sought via the questionnaire developed for the project related only to describing the course clientele who participated in the project. These course data came from either beginning speech students or advanced ones. Since there was no reason to suspect that course data of this type would change as a result of that course, the results of the questionnaire will be reported in two categories, beginning and advanced. The beginning category contains the questionnaire results for both the pretest and posttest1 conditions under which data was gathered. The statistics reported will be limited to frequency and percentage of item response.

*The exception to this being only the factor analyses of the self perception: in the posttest2 condition no such data were gathered.

It will be remembered that the prime intent of the research was to determine the effects of training and proficiency on the dimensionality of speech evaluation. Dimensionality was defined in a factor analytic sense. An attempt was being made to discover the relationship of training and proficiency on: (1) the number of factors evolved for the act of speech evaluation; (2) the content of those factors in terms of the criteria represented on the speech rating form developed for the project; (3) the relative strength of the factors with respect to the percentage of scale variance which could be accounted for by the factor analytic solutions judged most appropriate. As supporting statistical data the researcher was interested, descriptively, in the abilities of the student evaluators to consistently maintain a distinction between the quality classifications of the filmed speeches used in the project. In order to provide some indication as to whether or not these classifications were maintained consistently, both the means and standard deviations established by the evaluators for each evaluative criterion contained on the rating form are examined. However, no attempt will be made to establish these classification categories beyond the descriptive level. Since the means and standard deviations yield information relative to the application of the statistical technique of factor analysis, they are reported prior to an examination of the various factor structures.

It is because the research is basically factor analytic that the decision was made to maintain the separation of data by conditions under which they were gathered. It will be remembered that with respect to training there was a correspondence of level of training to condition under which data were gathered. Training level 1 was represented as the pretest condition; Training level 2 as the posttest1 condition; and Training level 3 as the advanced condition. The posttest 2 condition was treated as an internal replication of the effects of Training level 2 on dimensionality. Proficiency is treated as a nested effect. It will be recalled that proficiency levels were applied ex post facto to the data; that is, at the time of data gathering there was no attempt to establish the proficiency level of the evaluator. The point is that data were not gathered under the conditions represented by the combinations of training and proficiency levels. To act as though that were the case would confound the variances attributable to the main effects and work against the establishment of consistent factor structures. Since the essence of factor analytic study is based on the replication of factor structures, the results that follow will reflect the conditions under which the data were gathered.

4.2 Administration and Analysis of the Questionnaire.

As noted earlier, subjects in three conditions, pretest, posttest1 and advanced completed the project questionnaire. For purposes of analyzing and interpreting the answers received, the data have been

classified according to course level. Therefore, participants are categorized as to "beginning" or "advanced" subjects. Table 4.2-1 represents the frequency and percentage of response to each item contained on the questionnaire for the beginning and advanced students.

4.3 Responses of the Beginning Students

A sample size of approximately 3260 beginning speech students in two conditions--pretest and posttest1--completed the questionnaire. A slight discrepancy between this figure and the number actually viewing the filmed speeches can be explained several ways. In some instances students entered the experiment section too late in the period to adequately complete the front side of the rating form before the filmed speeches were shown. In some instances students simply neglected to complete all questionnaire items. Finally, the disparity may exist as a result of mis-marked questionnaires that had to be discounted.

Question one asked "Have you ever had a high school level public speaking course?" Respondents were instructed to answer "yes" or "no". Of the 3180 students answering this question, 1193 (37%) replied affirmatively, 1924 (61%) replied negatively and 63 (2%) of the participants chose to mark neither foil. It is difficult to ascribe meaningfulness to such figures in light of the absence of descriptive

data detailing the substance of the high school course. These data, however, could take on significant meaning if researchers in future study of the basic speech course attempt to study the correlation of previous course experience on performance in the basic course.

Question two asked "Have you ever had a college level public speaking course?" A total of 685 (21%) had, in fact, completed a speech course on the college level prior to taking the basic course. Of that figure, 625 (19%) had taken the course at the same institution where they were enrolled in the basic course, the 60 (2%) had completed the course at another institution. The greatest number of responses and one to be expected, was the figure of those who had not completed a college level public speaking course prior to taking the basic course. That figure, 2240 (75%), would appear to reflect the fact that the basic course had no real prerequisite. A total of 135 failed to complete any of the three responses and comprised just 4% of the total responding to the second question. Interest should be paid the 21% who were enrolled in their second speech course. Future research might be directed at determining the previous course content and the rationale for a second course. That is, if the beginning course is by definition the student's first exposure to speech, why then should it be the second course for many?

Question three asked those students who had taken a public speaking course prior to the beginning course to state the nature of the course. A total of 95 (3%) students had taken a course designated as a prerequisite; 703 (22%) had taken another course but it was not a prerequisite to the present course; and 2460 (75%) failed to respond, presumably because they had not taken a course prior to the ones in which they were currently enrolled. In a sense, the results of question three shed light on those of question two. That is, it might be safe to infer that the courses taken prior to the basic course in public speaking involved content not directly related and probably involved little or no platform experience for the student. Since platform experience, by tradition, is the feature of basic courses in public speaking and was the essential ingredient of those basic courses involved in the project, the results of questions two and three would not appear to require a subdividing of the training levels represented by the basic course in public speaking.

Question four asked, "Is this course the basic public speaking class offered at your university?" 2508 (77%) of those responding indicated it was, 480 (15%) answered negatively, and 262 (8%) did not know. Despite the results indicated by question four the researcher, in conjunction with the institutional contacts, determined prior to the gathering of data that the courses representing the beginning training

level were in fact the basic courses in public speaking at the participating schools. Question four then reflects on the part of some students a lack of knowledge with respect to the courses in which they are enrolled.

Question five--"Does this course have basic public speaking as a prerequisite?"--142 (4%) of those participating indicated "yes", 2930 (90%) said "no", and 187 (6%) did not know. Again, prior to the gathering of data the researcher determined that the courses at the beginning level involved in the project did not have a prerequisite involving public speaking.

Question six attempted to establish student identification of the department offering the basic course. Of the 3259 responding, 128 (4%) identified the basic course as being offered in a Communication department, 182 (6%) placed the basic course in the English department, 2684 (82%) identified the course as one of the Speech department, 168 (5%) recognized the course as being in some "other" department, and 97 (3%) did not know which department offered the course.

Question 7 asked the students to grade themselves as a public speaker. 166 (5%) graded themselves as A, 1282 (39%) as B, 1428 (44%) as C, 221 (7%) as D, 23 (1%) as F, and 139 (4%) preferred to record no grade. The mean grade of this group represented essentially C+ grade level ($\bar{x}=2.43$).

Question eight asked respondents for their class standing.

As expected, the majority of students enrolled in the beginning course were first and second-year students. The overall distribution was: Freshman: 982 (30%); Sophomores: 1021 (31%); Juniors: 709 (22%); Seniors 451 (14%); Graduates: 10 (.3%), and other: 86 (2.7).

Question nine asked participants to identify their majors.

The options offered were all speech related and nearly all responding--2995 (92%)--were not majors in one of the options. The remaining breakdown was: Radio and Television - 90 (3%); Rhetoric and Public Address - 9 (.3%); Speech Education - 95 (3%); Speech Science - 26 (.7%); and Theatre - 44 (1%). This evidence tends to support the notion that the basic course in public speaking is primarily a service function offered by Speech Departments to other disciplines within their respective institutions.

In summary the typical participant (in the beginning courses) who was involved in the research project would be a freshman or sophomore without a prior speech course, cognizant of the department offering the course and representing a non-speech major with a C+ grade perception of himself as a public speaker.

4.4 Responses of the Advanced Students

All participants in the advanced condition completed the same questionnaire as those in the beginning condition. Inasmuch as the

questions have been detailed in the previous section, only the specific responses will be discussed here.

In question one, over half of the 547 participants who completed the question (291-53%) had taken a high school level public speaking course. This percentage is considerably higher than those beginning students who had had similar experience (37%). The advanced students who had not ever had a high school course totaled 241 (46%), and 5 (1%) questionnaires could not be used.

The number of advanced students who had completed a college level course either at the present institution or at another totaled 468 (85%), 50 students (9%) did not have a prior college level course and 29 questionnaires (6%) could not be used. Many reasons can be offered for the fact that some did not enroll in a prior course. Year in school, proficiency, high school experience, or even quality of the advanced course provide several explanations. Most institutions which participated in the project did allow some form of advanced placement of students (generally involving the waiver of any prerequisite requirements).

In answer to question three asking for the nature of the prior speech course, 389 (71%) indicated that the prior course was a prerequisite, 63 (11%) had taken a prior speech course, but one that was not classed as a prerequisite, and 95 (18%) failed to respond to one of the noted options; presumably many of this number had not

had a public speaking course prior to the one they were enrolled in. Prior to the gathering of data the researcher had determined that the advanced courses used in the project did have a prerequisite of basic public speaking.

Question four asked the students whether or not the course they were taking was the basic course at that school. One would expect that nearly all would reply negatively. In fact, 74 (14%) said it was, 460 (84%) acknowledged that it was not the basic course, and 13 (2%) did not know.

Question five provided data that appear to be in conflict, at least partially, with the answers to number four. In question five, 488 (89%) indicated that the course had as a prerequisite a basic public speaking class, 47 (9%) said no, and 12 (2%) did not know. The question arises as to how a course can be the basic public speaking course at a university (question four) and still require basic public speaking as a prerequisite (question five).

The advanced students appeared to be as perceptive in identifying the advanced course with the speech department, 459 (84%) acknowledging such identification. Interestingly enough, a higher percentage of the advanced students identified the advanced course with the English department (9%) than did the beginning students (6%).

Question seven, asking for a self appraisal as a public speaker in terms of a grade, revealed a considerably higher mean grade point estimate than did the beginning students (advanced: $\bar{x}=3.06$; beginning: $\bar{x}=2.43$), with the following total distribution: A, 107 (19%); B, 356 (65%); C, 60 (11%); D, 5 (1%); F, 1 (1%), and 18 (3%) preferred to record no grade.

As would be expected, the class standing of the advanced student was higher, the majority of enrollees being juniors and seniors, 373 (68%). The total distribution was: Freshman: 33 (6%); Sophomores: 121 (22%); Juniors: 212 (39%); Seniors: 161 (29%); Graduate: 8 (2%); and other: 12 (2%).

Only 29% of the advanced participants were speech-related majors. The following was the total distribution: Radio and television - 46 (8%); Rhetoric and Public Address - 25 (4%); Speech Education - 58 (11%); Speech Science - 10 (2%); Theatre - 21 (4%); and other - 387 (71%). This was, however, a considerably higher percentage of speech related majors than was found among the basic students.

In summary the typical participant (in the advanced courses) who was involved in the research project would be a junior or senior with prior speech experience (probably in the form of a basic course in public speaking), cognizant of the department offering the course and representing a non-speech major with a B grade perception of himself as a public speaker.

4.5 Factor Analysis of the Self-Perception Scales

The students in the pretest, posttest1, and advanced conditions of the research filled out a self-perception rating form at the same time that they responded to the questionnaire. The self-perception scales were similar to those to be used in the evaluation of the filmed speeches. The difference in the self-perception scales was that the criteria were rephrased in order to be applicable to the evaluator rather than to a speech being evaluated. There were essentially two reasons for having the students fill out the self-perception scales: (1) it was felt that asking the evaluators to apply the rating scales to a known speaker would familiarize them with both the content and the format of the rating instrument; (2) it was felt that a factor analysis of the self-perceptions would be a gauge to the actual dimensionality of the rating instrument.

Table 4.5-1 represents the means and standard deviations for the self-perception scales under the three conditions of the research in which they were completed. In general, it can be stated that with increased training in public speaking there is a corresponding increase in the mean self-perception ratings of students. The most marked increase seems to occur as a result of the basic speech course. There is no consistent shifting in the scale variances that can be attributed to training in public speaking. These findings largely parallel those of the pilot study (Table 2.4-1) with respect to beginning and

advanced students at approximately the middle of their respective courses.

Tables 4.5-2, 4.5-3, and 4.5-4 represent the factor analyses for the self-perception ratings for the pretest, posttest1, and advanced conditions of the research respectively. It will be noted that in each instance a four factor solution was deemed most appropriate. This represented a slight change from the pilot study data where for the advanced students a five factor solution was evolved. Across the conditions under which self-perception data were gathered there was agreement with respect to factor content on 12 of the 19 scale items. This agreement is reflected by the high factor loadings of evidence, logical reasoning, and organization on one factor; the items diction, fluency, vividness, vocal inflection and word choice on a second factor; the items attitude, enthusiasm and interest representing a third factor; and finally the item physical appearance associated with a fourth factor. When comparing the factor content between the posttest1 and advanced conditions we find agreement on 16 of the 19 scale items. The exceptions are facial expression, imagination and preparation. In comparing the pretest self-perception content to that of posttest1 we see agreement on the additional item imagination. Thus, it would appear that with respect to the factor content of their self-perceptions the students completing the basic speech course moved closer to the self-perceptions of the advanced students

and away from those who had yet to complete the basic course. There is no consistent indication of a significant effect on factor content of the self-perception data attributable to training in public speaking beyond the basic level.

With respect to the total amount of accountable variance there appears to be a slight increase for the advanced students over the basic ones regardless of training level. This increase was certainly below that obtained for the pilot study data (see tables 2.4-2 and 2.4-3). There appears to be no consistent finding with respect to the relative strength of the factors between solutions.

Two conclusions would seem to be indicated with respect to the analyses of the student self-perception scales. First, as in the case of the pilot study, the students appear to use the rating form as a multi-dimensional instrument. Second, there is some evidence, particularly with respect to factor content, to suggest differences in factor structure due to training in public speaking, or at least that training represented by the basic courses involved in the project.

4.6 The Effects of Film Quality on Factor Structure

It will be remembered that the chief variables under investigation for this report were those of training and proficiency in public speaking. Of secondary interest was the determination of the effect of varying filmed speech quality on the factor structure of the rating form developed for the project. In order to gauge this effect the data

stemming from all the conditions under which data were gathered were subjected to factor analyses with the classification variable being film quality. That is, data from each film quality (low, middle, high) for each condition of the research (pretest, posttest1, posttest2, and advanced) were subjected to analysis. It is important to note that the factor structures represented in this article are those which distinguish between film qualities, but do not represent the factor structures evolved from student evaluators attempting to make a distinction between filmed speech qualities. It is for this later circumstance that the effects of the main variables were desired.

4.7 Factor Structure for Film Qualities in the Pretest Condition of the Research

Table 4.7-1 represents the means and standard deviations for the three film qualities as evaluated in the pretest condition of the research. One can easily see that the mean ratings assigned in the pretest reflect the three filmed speech classifications. This is a consistent finding across the 19 evaluative criteria contained on the speech rating form. With the exception of the criterion physical appearance the range with respect to standard deviations across the film classifications is two tenths of a point or less. These findings then were not viewed as preventing a comparison of factor structures evolved for the quality groups in the pretest condition.

Tables 4.7-2, 4.7-3, and 4.7-4 represent four factor solutions for each film classification as viewed in the pretest condition. In all instances it was the four factor solution which adhered to the criteria cited in Section III for interpreting factor analyses. One can see emerging for each film quality a dimension representing the criteria of total effect, evidence, logical reasoning, organization and preparation. A second factor reveals the clustering of the criteria diction, fluency and word choice. The third factor reflects the items physical appearance and poise. The fourth and final factor across the film qualities involved the scale items of attitude, enthusiasm and imagination. There does appear to be agreement between the low and middle factor structures on the additional evaluative criteria of vividness and vocal inflection, interest, and eye contact. Furthermore the item facial expression reflects a parallel between the middle and high speeches. The item bodily movement indicates no degree of consistency across filmed speech qualities.

In examining the total percentage of scale variance accounted for by the four factor solutions across the film classifications we can see that the evaluations of the high quality film presentations accounted for more than the other two which did not differ in regard to this measure.

In using the contribution of common factor content to the total amount of accountable variance one can see a slight difference between

film classifications in terms of the ranking of dimensions. With respect to the total effect, evidence, logical reasoning, organization and preparation factor it was for the middle and high classifications that the most variance was accounted for. For the low and middle classifications the factor representing attitude, enthusiasm and imagination accounted for the third highest amount of scale variance. The diction, fluency and word choice dimension shifted in importance with respect to the film classifications, ranking first for the low films and third for the high. Finally, the physical appearance and poise dimension in all cases accounted for the lowest percentage of the scale variance in the pretest condition.

4.8 Factor Structure for Film Qualities in the Posttest1 Condition of the Research

Table 4.8-1 represents the means and standard deviations for the three film qualities as evaluated in the posttest1 condition of the research. The findings indicate very little difference from those discovered in the pretest condition, namely, that the mean ratings consistently parallel the film classifications and that there is very little variance among the criteria for a given classification and between classifications across the 19 evaluative criteria.

Tables 4.8-2, 4.8-3, and 4.8-4 represent those factor analytic solutions which seemed most appropriate for the film classifications as viewed in the posttest1 condition. It will be noted that four factors

consistently emerged. There appears to be common clustering on 13 of 19 evaluative criteria. It can be seen that the scale items evidence, logical reasoning, organization and preparation represent a single factor for all quality groupings. This is also the case for diction, fluency and word choice as well as physical appearance and poise. A fourth dimension is represented by attitude, enthusiasm, facial expression and interest. For the remaining six evaluative criteria there are parallel loadings for total effect, bodily movement and vocal inflection for the low and high filmed speech classifications. For the middle and high categories this parallelism exists for the items imagination and vividness. The scale criterion eye contact shows a common factor association for the low and middle quality films.

As was the case with the pretest factor analyses there appears to be a higher percentage of accountable variance for the high film classification than that for the low and middle types of filmed speeches. In terms of ranking the factors across the film qualities it was found that there was no unanimity. The strongest factor across the film qualities was the one involving evidence, logical reasoning, organization and preparation. The weakest factor appears to be the one involving physical appearance and poise. For the other two factors there appears to be no consistency with respect to the contributions to the total amount of accountable variance.

4.9 Factor Structure for Film Qualities in the Posttest2 Condition of the Research.

It will be remembered from the discussion of the logistics of the project that posttest2 was designed as a replication of posttest1 with the exception that in the former case the data stem from students who participated in the pretest but viewed a different set of films at the individual institutions.

Table 4.9-1 represents the means and standard deviations for the three film qualities as evaluated in the posttest2 condition of the research. As was the case in the pretest and posttest1 conditions, the mean ratings consistently reflect the differing film qualities. All the standard deviations seem to fall within the ranges observed for the evaluative criteria in the pretest and posttest1 conditions.

Tables 4.9-2, 4.9-3, and 4.9-4 represent the factor structures for the film classifications for data stemming from the posttest2 condition. With the exception of the items poise and imagination the results are the same as discovered for the posttest1 condition. Again four factor solutions were judged most appropriate with evidence, logical reasoning, organization and preparation clustering on one factor and diction, fluency and word choice another dimension. In the posttest2 condition imagination linked with attitude, enthusiasm, facial expression and interest to form a separate factor. The item physical appearance stood out as representing a fourth factor across

the quality groupings. Also, as was observed in posttest1 the total effect loaded in similar fashion for the low and high classifications and vividness associated itself with the same factor content for the middle and high films. It was only for the low classification that the item poise did not align itself with physical appearance. Unique to the posttest2 condition were the facts that the item of bodily movement loaded in a similar fashion for the middle and high classifications, and that vocal inflection (as in the case of the pretest) paralleled the low and middle film qualities. The item eye contact indicates no degree of consistency across the filmed speech categories.

With respect to the total amount of accountable variance there seems no meaningful difference between the factor analyses (though there is a slight dip in the total for the middle speech). With the exception of reversing of ranks for the diction, fluency and word choice factor and the physical appearance and poise factor there is no difference between the posttest1 and posttest2 conditions.

The evidence cited in this article seems to indicate that the use of the rating forms and the viewing of a second set of films by students in posttest2 does not constitute a significant degree of difference attributable to familiarity with the project research materials. The discovery of any such effect was the purpose of the internal replication represented by posttest2.

4.10 Factor Structure for Film Qualities in the Advanced Condition of the Research.

Table 4.10-1 represents the means and the standard deviations for the three film classifications as evaluated in the advanced condition of the research. As in the case of the other research conditions, it can be seen that the mean ratings for the 19 evaluative criteria contained on the rating form consistently maintain the film classifications. The standard deviations on the other hand do not consistently vary between speeches nor between criteria.

Tables 4.10-2, 4.10-3, and 4.10-4 represent the factor analyses for the film classifications as viewed in the advanced condition of the research. It will be noted that for the low speeches a five factor solution was judged most appropriate. For the other two quality categories a four factor solution was most acceptable according to the criteria developed in Section III of this report. This finding seems unique to the advanced condition of the research. With respect to the content of the identifiable dimensions there appears to be less agreement than that observed with the other conditions. Only 9 of the 19 scale items appeared to hold across film qualities. There is clearly established a common factor involving the items evidence, logical reasoning, organization and preparation. Also emerging is a dimension relating attitude, enthusiasm and interest. There is apparently an identifiable factor involving the items poise and physical appearance. Missing across the three film classifications

for the advanced condition was the factor represented by diction, fluency and word choice. The agreement of factor content picks up considerably when comparing the factor structures evolved for the low and middle speeches in the advanced condition. Here the items of diction, fluency and word choice did emerge as a separate factor. In addition the items of bodily movement and vividness associate with a common factor for this same comparison. By comparing the other combinations of factor structures (low to high and middle to high) we see in each case the loading of one additional item in a similar fashion to those 9 which extend across all the film categories. For both the low and high speeches the item total effect clusters with evidence, logical reasoning, organization and preparation to form an identifiable dimension of speech evaluation. In the cases of the middle and high classifications vocal inflection lines up with attitude, enthusiasm and interest to form a separate factor. Thus, with respect to the factor structures across the film qualities for the advanced condition we find an additional factor emerging for the evaluation of the low speeches, but one that seems to have only a slight effect on the establishment of a common factor structures. That is, the fifth factor seemed to be composed of items not found in previous instances to be a factor (the items facial expression and eye contact), but the emergence of this factor did not destroy the content of the dimensions discovered under the previous conditions of the research. By far the most significant influence on factor content

was the advanced students' evaluation of the high film classification. But, even here the four factors discovered previously did hold up -- the difference being primarily limited to one or two items loading on a secondary factor rather than a primary one as noted previously.

With respect to accountable variance there appears to be very little difference among the film classifications. There is a slight increase in the total amount of variance accounted for in the evaluation of the high quality filmed speech. This finding was also observed for some of the previous conditions of the research. With respect to the rankings of the individual factors according to their contribution to the total scale variance we see much agreement, with the most significant factor being the evidence-logical reasoning-organization-preparation dimension and the least the physical appearance-poise factor. The remaining factors seem to shift in importance with the changes in film classifications.

4.11 Summary of Finding with Respect to the Factor Structures of the Various Film Qualities.

Two conclusions seem to emerge from an examination of the factor structures for the film classifications across the conditions of the research. First, the evidence indicates that in each condition of the research the film classifications of low, middle and high were maintained. Second, that despite some slight discrepancy for the individual film classifications within particular conditions under which

data were gathered, a common four factor solution seemed to emerge. Above all, and most importantly for determining the effects of the main variables of training and proficiency, the rating scale remained multi-dimensional in all conditions of the research across all film qualities.

4.12 The Effects of Training in Public Speaking on the Dimensionality of Speech Evaluation.

In an attempt to determine the effect of training in public speaking on the dimensionality of speech evaluation the data processed for the study were first analyzed according to the conditions under which they were gathered. The conditions themselves represent three training levels: (1) evaluation of filmed speeches by students enrolled in a basic course in public speaking in the first weeks of that course (the pretest condition); (2) evaluation of filmed speeches by students enrolled in a basic course in public speaking during the final weeks of that course (the posttest condition); (3) evaluation of filmed speeches by students enrolled in advanced courses in public speaking during the final weeks of that course (the advanced condition). It will be remembered that the posttest condition was further subdivided into posttest1 and posttest2 in order to allow for an internal replication of the effects of the basic course (see article 3.2).

In examining the effects of training in public speaking on the

dimensionality of speech evaluation each student's ratings for all 3 film classifications were used. This means that for the purposes of analysis each student provided three evaluations (of a low, a middle, and a high speech). At this point the researcher actually began to tackle the main issue: the focus on the emergence of the factor structures which are used by students at various training levels discriminating among filmed speeches shown in a series.

4.13 The Pretest Condition - Training Level 1

Data collected under the pretest condition were from students at the start of a basic course in public speaking. An attempt was made to gather all these data during the first week of classes. In the instances where this was impossible the data were collected during the second week of classes but prior to assignments involving practice in public speaking.

Table 4.13-1 contains the means and standard deviations for the 19 evaluative criteria contained on the rating scale. The means ranged from a high of 4.93 on the scale item physical appearance to a low of 3.80 on the scale item fluency. The standard deviations fell between 1.3 for attitude to 1.7 for organization. These findings did not seem to necessitate any adjustment in scale values prior to the employment of factor analysis.

Table 4.13-2 represents the results of the factor analyses of the pretest data. A three factor solution was judged to be most appropriate for interpreting the pretest data. The first factor extracted represented the items total effect, attitude, bodily movement, diction, enthusiasm, facial expression, fluency, imagination, interest, vividness and vocal inflection. The second factor combined the items evidence, logical reasoning, organization and preparation. The third factor included eye contact, physical appearance and poise.

It can also be seen from Table 4.13-2 that the three factor solution for the pretest data accounted for approximately 70% of the total scale variance.

4.14 The Posttest Condition - Training Level 2

Data collected under the posttest conditions were for students at the conclusion of a basic course in public speaking. It will be remembered that in the posttest condition data were collected on film evaluations for students who both did and did not participate in the pretest condition.

Table 4.13-1 contains the means and standard deviations for those students who did not participate in the pretest condition on the 19 evaluative criteria contained on the rating scale. The means ranged from a high of 4.98 on physical appearance to a low of 3.80 on vividness. The standard deviations fell within the range of 1.3

for attitude, facial expression and physical appearance to 1.6 for evidence, eye contact, logical reasoning, organization and preparation. Table 4.13-1 also contains the means and standard deviations for the students who did participate in the pretest on the 19 evaluative criteria contained on the rating scale. The means ranged from a high of 4.85 on physical appearance to a low of 3.83 on imagination. The standard deviations fell within the range of 1.2 for physical appearance to 1.6 for organization. Again the differences in means were not such as to necessitate any adjustment in scale values prior to factor analysis. Furthermore, the differences between means and standard deviations for the 19 criteria for the pretest and posttest conditions were not viewed as sufficient to prevent meaningful comparisons between respective factor analyses.

Tables 4.14-1 and 4.14-2 represent the factor analyses for the two posttest conditions. It will be noted that both represent four factor solutions, and that with respect to the clustering of items about the four factors there is agreement between the two posttest conditions on 18 of the 19 scale items. The exception is the criterion bodily movement. The high degree of similarity between the factor structures of posttest1 and posttest2 does not seem to support a conclusion that the repeated use of the rating scale represented a significant degree of training for those students who participated in both the pretest and posttest conditions. In comparing the posttest

conditions to that of the pretest we see a degree of similarity that supports three common factors. In all three conditions the items total effect, attitude, enthusiasm, facial expression, imagination, interest, vividness and vocal inflection represented the first extracted factor. The items evidence, logical reasoning, organization and preparation represent the second extracted factor. The items physical appearance and poise represent the third extracted factor. With respect to the posttest conditions we can see in both cases the emergence of a fourth factor involving the criteria diction, fluency and word choice. Thus it would appear that the contribution of a basic course in public speaking to the dimensionality of speech evaluation (when that evaluation involves making a distinction between qualities of public address) is to the use of a language facility factor involving the criteria diction, fluency and word choice.

In terms of accountable variance we can see very little difference between the two posttest conditions either in the total percentage of variance accounted for or the rank order of the respective factors in terms of their contributions to this total. In comparing the posttest conditions to the pretest we see that the extraction of the dimension of diction, fluency and word choice allows the students completing a basic course in public speaking to increase the total percentage of scale variance when discriminating between the qualities of the filmed speeches.

4.15 The Advanced Condition - Training Level 3

Data collected under the advanced condition were for students enrolled in various courses in public speaking which (1) had the prerequisite requirement of a basic course in public speaking; and (2) involved training and practice in public speaking.*

Table 4.13-1 contains the means and standard deviations for students who participated in the advanced condition of the research. It will be remembered that these students viewed a particular film set at the conclusion of their respective courses, that the film set evaluation was the same as that used in the pretest and posttest condition of the research, and that all film sets were represented in the data collected in the advanced condition. The means for the advanced students ranged from a high of 4.76 on physical appearance to a low of 3.37 on imagination. The standard deviations fell within the range of 1.3 for total effect to 1.6 for organization and evidence. It will also be noted that the means for the advanced conditions are consistently lower than for the previously described training levels. This is despite the fact that there is no corresponding increase or decrease in the standard deviations. This difference in means alone is not sufficient to prevent a comparison between factor structures

*As data were received from each participating institution, a check was made to determine (1) whether there were any simultaneous enrollments in advanced and beginning courses; (2) that no student participated in the research more times than the design allowed. In instances where this did occur the student's data were dropped from these analyses.

across training levels. Nor were the differences on individual criteria within the advanced condition deemed sufficient to necessitate any adjustment in scale values prior to factor analysis.

Table 4.15-1 represents the factor analysis for all students providing data in the advanced condition of the research. For the purposes of a meaningful comparison between training levels (note the mention of this criterion in Section III of this report) a four factor solution was chosen. In comparing the factor structure of the advanced students to the four-factor solutions of the students who provided data under the posttest conditions, we can note agreement on 18 of the 19 scale items for the combination advanced-posttest1 (same film set), and agreement on 17 of the 19 items for the combination advanced-posttest2 (different film sets). The non-consistent items across these combinations are bodily movement and eye contact. The item bodily movement was the inconsistent item across all three conditions under which data were gathered. In comparing factor structures across training levels (pretest, posttest, advanced) one can see agreement on the following items with respect to identifiable factors. The first extracted factor is represented by total effect, attitude, enthusiasm, facial expression, interest, imagination, vividness and vocal inflection. The second extracted factor is represented by evidence, logical reasoning, organization and preparation. A third factor across training levels

is represented by the items physical appearance and poise. For the students who completed a course in public speaking (posttest1 and posttest2), as well as those completing a course in advanced public speaking, a fourth factor of evaluation emerged. That factor is represented consistently by the items diction, fluency and word choice.

While a four factor solution for the students in the advanced courses allowed for the most reasonable comparisons across training levels, it was also true that a five factor solution did meet other criteria for an acceptable analysis. Table 4.15-2 represents the five factor solutions for data collected under the advanced condition. It will be noted that the extraction of a fifth factor seems to diminish the additive effects of the previously cited factor structures for the different training levels. That is, with the five factor solution only the evidence-logical reasoning-etc. and the physical appearance-poise factor remain intact. The fact that a five factor solution does meet some of the requirements for an acceptable factor analysis does allow the construction of an interesting hypothesis with respect to advanced training in public speaking, namely, that courses differing in content may well have a different effect on the dimensionality of speech evaluation. An examination of the data collected under the advanced condition revealed that the data came from a wide variety of courses and that any attempt to study the differential effect of the varied course

contents would reduce the sample to such small subgroupings as to make factor analysis unwarranted. Thus a decision was made to allow the four factor solution to stand for the advanced data, recognizing that it would prevent any meaningful statement to be made with respect to the contribution of this training level to the dimensionality of speech evaluation.

In terms of accountable variance we see that the four factor solution for the advanced students accounts for less of the total scale variance than similar solutions for students completing a beginning course in public speaking. In fact, the accountable variance seems very close to the amount provided by beginning students prior to taking the basic course. Two rationales might provide an explanation for this finding. The first would be a lower degree of reliability for the advanced students, and the second a differential effect attributed to the wide variety of course content at the advanced level of training. It is interesting to note that the five factor solution for the advanced data adds less than three percent to the total accountable variance, which is still below that of the four factor solutions for students completing a basic public speaking course. This finding tends to support the rationale dealing with reduced reliability for the students in the advanced courses. The issue of reliability will be covered in a later division of this section of the report. In terms of the rank ordering of the factors it can be seen that for both posttests and the advanced

factor analyses the rankings are the same.

4.16 Scale Item Reliability Across the Training Levels.

It will be recalled that the method to be used to determine the reliability of the rating scale items was that of the Intraclass Correlation. The coefficients deemed most meaningful given the factor analytic design of the project were those dependent upon the combined ratings given by viewers over the three films seen at a particular showing. The statistical technique of the Intraclass Correlation was performed on all data representing a unique film showing. It will be remembered that four film sets were used in the research and further that within a given film set the films were shown in three distinct orders. This means that within each condition of the research at least 12 reliability coefficients were computed for each criterion contained on the rating scale. In actuality reliability estimates were run on each film showing even if it represented a replication of a particular combination of film set and order. Since neither number of showings or order of film arrangement was a variable under study, it was decided that the reliability of each film set on each criterion would be estimated by taking the mean combined intraclass correlation coefficients for the various combinations of order and showing. This meant that any variance in reliability due to film order or replication of film order for a given film set was dropped

from the consideration of reliability.*

Table 4.16-1 represents the Intraclass Correlation coefficients for the 19 scale items across the training levels. In each instance the correlations represent means across the four sets of films shown in each condition under which data were gathered.** In order to gauge the possible effects of training on the reliability of the scale items, the many Intraclass Correlation coefficients were subjected to an analysis of variance. The approach used treated both training level and scale item as main effects. In addition an interaction of training level and scale item was also extracted. All other factors (film-set, order, showing) which could contribute to variance were relegated to the error factor. A decision was made to treat the posttest1 condition as representative of training level two. The analysis revealed a significant difference in reliability due to training ($< .0005$). There was also a difference in the reliability due to the effect of the scale items (.035). However, there was no significant interaction between training level and scale items. Further analyses revealed that generally the reliability established at the end of the course in

*Also dropped from consideration in this final report was any effect on reliability due to particular institutions, instructors, and courses within conditions under which data were gathered.

**It should be remembered that training level 2 (completion of a basic course in public speaking) was represented by two conditions under which data were collected: posttest1 and posttest2.

public speaking was slightly higher across the nineteen evaluative rating scale criteria than that established for the beginning speech students prior to taking the basic course in public speaking. Also it was found that the reliability for the students in the advanced courses was considerably below that of the beginning students regardless of training level across the 19 scale items.* It is interesting to note that the reduction in reliability for the advanced students might well be sufficient to explain the corresponding lessening of the four factor structure with respect to accountable variance when compared to the posttest1 and posttest2 conditions of the research.

4.17 Effects of Proficiency in Public Speaking on the Dimensionality of Speech Evaluation.

In an attempt to determine the effect of proficiency in public speaking on the dimensionality of speech evaluation the data from the research conditions were divided according to the final grades received by the students in their respective courses. Table 4.17-1 represents the grade distributions for students who participated in the project under the various research conditions.

*As a point of interest the same analysis with respect to the Intraclass Correlation coefficients was run with the posttest2 condition representing the second training level. The results were essentially the same as described above with both training (.022) and scale item (.012) having an effect on reliability but not the interaction of the two. There was a greater correspondence between the reliabilities for the pretest and posttest2 condition, with most of the effect of training being due to the consistently lower coefficients established for the advanced students.

The data for each student receiving a particular grade under the conditions of the research consisted of his evaluations of the three filmed speech presentations according to the nineteen criteria contained on the speech rating scale. Tables 4.17-2 to 4.17-5 represent the means and standard deviations for the four research conditions on the nineteen criteria for each grade level. These results indicate very little difference between the pretest and the posttests means and standard deviations for those students enrolled in basic courses in public speaking across the five grade levels. However, it is interesting to note that the advanced students consistently, across the five grade levels, had lower means on the criteria for the filmed speeches than the students in the beginning courses. This was despite the fact that there was no consistent difference in the standard deviations that could be attributed to either the research condition or proficiency.

In order to seek out possible difference in factor structure which could be attributed to proficiency in public speaking, the data for each condition were divided according to the grades received by the student evaluators. Each of these new divisions was subjected to factor analysis with the criteria cited in Section III used in determining the appropriate solution.

4.18 The Pretest Analyses for Proficiency Levels.

It should be noted from the outset that in determining the

effects of proficiency on the factor structure of the pretest data, the measure used for division was still the final grade received by the student for the courses in which the data were collected. This makes the determination of the effects of proficiency in public speaking on the dimensionality of speech evaluation in the pretest an ex post facto investigation. Also to be considered is the fact that the pretest data stem only from students enrolled in beginning speech courses.

Tables 4.18-1 through 4.18-5 represent the pretest factor analyses for A, B, C, D, and F students respectively.* In terms of the number of identifiable factors for the five grade levels it can be seen that for the A students a four factor solution seemed most appropriate, while for the B through F students a three factor solution was the most meaningful.

In terms of the content of the factors it can be seen that for all grade levels the evaluative criteria of evidence, logical reasoning, organization and preparation all loaded highest on the same factor. This same relationship held for the evaluative criteria of imagination and interest. With the exception of the F students the evaluative

*The number of Pretest students who completed a course in public speaking was somewhat less than the number who participated in the pretest.

criteria of physical appearance and poise cluster together on a common factor.* Subdividing the pretest data into two groups, the A students and the non-A students, we can see for the non-A set a similarity of factor content on 10 of the 19 scale items. Note how evidence, logical reasoning, organization, and preparation; imagination, interest, attitude, enthusiasm and vocal inflection; and physical appearance, cluster on separate factors across the B, C, D, and F grade levels. Excluding the F students allows the association of poise and physical appearance for the BCD grade group. The additional factor identified by the A students appears to be one involving the criteria of diction, fluency, and word choice. The other grade levels did not appear to be able to extract this factor consistently when trying to discriminate between speech qualities.

In terms of accountable variance (the total amount of variance accounted for by the appropriate factor solution), there was a perfect positive correlation between grade levels and percentage. However, the difference between the B, C, D, and F three factor solutions does not appear meaningful. An examination of a three factor solution for the A students revealed the same relationship but with only a

*There is sufficient rationale for being suspicious of the data stemming from the F students since (1) they represented a very small sample size, and (2) the explanation of failure in a public speaking course often has little to do with the demonstrated speaking proficiency of the student.

slight difference between the A and B students. It would appear then that in terms of accountable variance the difference between grade levels is only a function of the number of factors extracted from the data.

4.19 Posttest1 Analyses for Proficiency Levels.

Posttest1 analyses stem from data of student evaluation of the filmed speeches during the final week of beginning courses in public speaking. These students did not participate in the pretest but viewed the same films shown at the time of the pretest at the particular institution.

Tables 4.19-1 through 4.19-5 represent the posttest1 factor analyses for A, B, C, D, and F students respectively. In terms of the number of identifiable factors for the five grade levels it can be seen that for both the A and B students a four factor solution appears most appropriate while for the C, D, and F students the three factor solution was most meaningful.

In terms of the content of the factors there appears a similarity of factor structures between the A and B students. It should be noted from Tables 4.19-1 and 4.19-2 that 16 of the 19 scale items clustered on similar factors with respect to content. This can be seen by examining the factor loadings of evidence, logical reasoning, organization, and preparation; diction, fluency and word choice;

imagination, interest, facial expression, enthusiasm, attitude, total effect and vividness; physical appearance and eye contact. Tables 4.19-3, 4.19-4, and 4.19-5 indicate a similarity of factor loadings across the three dimensions for the C, D, and F students of 11 of 19 items; organization and preparation; attitude, enthusiasm, facial expression, fluency, imagination, interest and vividness; physical appearance and poise. Excluding the F students, a comparison between the C and D students reveals agreement on 17 of the 19 scale items with respect to the content of the established factor structure (the exceptions being the criteria of diction and word choice). Across all five grade levels similarity in factor content seems limited to organization and preparation; imagination, interest, attitude, vividness and facial expression; and physical appearance. Excluding the F students the across grade level similarities are evidence, organization, logical reasoning and preparation; total effect, attitude, enthusiasm, facial expression, imagination, interest and vividness; and physical appearance. It would appear that there was a high degree of similarity between the A and B students and the C and D students both in terms of the number of factors and the respective content of those factors and that the major difference between the AB subgroup and the CD subgroup was the former's ability to include diction, fluency and word choice on a factor distinguishable from the other scale factor loadings. The data coming from the F students in this phase of

the project do not seem to fit well into either the AB or CD subgroups.

In terms of accountable variance there appears little difference between the totals for A and B students. Each of the identifiable factors also seems to account for like percentages of variance in their order of extraction. This would be expected given the high degree of similarity in the content of the factors for both the A and B students. With respect to the C, D, and F students it can be seen that the D's account for a higher total variance with their 3 factor solution than do the C and F students. However, this difference seems attributable to the fact that the first extracted factor for the D students represents considerably more scale items than the C and F students. On the second and third extracted factors, those for the C, D, and F students seem highly similar both in content and accountable variance.

4.20 Posttest2 Analyses for Proficiency Levels

Posttest2 analyses stem from data evolved from students who participated in the pretest. These students were shown a different set of films from the one they saw in the pretest during the final week of their beginning courses. In total the data in posttest2 evolved from student evaluations of all the films represented by posttest1. Since those students who did participate in posttest2

saw two sets of films while those who participated in posttest1 saw only one set, the researcher decided to analyze the data from the two conditions separately.*

Tables 4.20-1 through 4.20-5 represent the posttest2 factor analyses for A, B, C, D, and F students respectively. Again, as in the case of posttest1 data for the A and B students a four factor solution seemed most appropriate while for the C, D, and F evaluators a three factor solution appeared most meaningful.

In terms of the content of the factors an examination of Tables 4.20-1 and 4.20-2 reveals a similarity between A and B students on 17 of the 19 rating scale items. These include the following clusters of evaluative criteria on separate dimensions: evidence, logical reasoning, organization and preparation; diction, fluency and word choice; imagination, interest, facial expression, enthusiasm, eye contact, attitude, vividness and vocal inflection; and physical appearance and poise. Tables 4.20-3, 4.20-4, and 4.20-5 indicate a similarity of factor loadings across the three dimensions for the C, D, and F students of 11 of 19 items: logical reasoning, organization and

*Because of various logistical problems not all the students who participated in the pretest were able to be involved in posttest2. A particular check was made, however, to insure that those who did participate in posttest2 had also been included in the pretest. Nine hundred forty eight students participated in posttest2, as opposed to 1811 who participated in the pretest.

preparation; imagination, interest, attitude, enthusiasm, facial expression, and vividness; physical appearance and poise.

Excluding the F students, a comparison between the C and D students reveals agreement on 13 of the 19 scale items.* Across all five grade levels there is similarity in factor content on the following item clusters: logical reasoning, organization, preparation; imagination, interest, facial expression, enthusiasm, vividness, attitude; and physical appearance and poise. Excluding the F students allows the inclusion of the criterion evidence with logical reasoning, organization and preparation across all five grade levels. In terms of factor structure it appears that the students who participated in posttest2 can be divided into two groups, the AB group and the non-AB groups. The distinguishing difference between the two groups seems to be the fact that the AB group was able to identify a dimension represented by the criteria diction, fluency and word choice while the non-AB group was not. This finding seems consistent with the results of posttest1.

*In the case of posttest2 there is less rationale for the exclusion of the F students than in posttest1, since to have participated in this phase of the project would demand that the student complete a course in public speaking at least to the final week of classes. However, there remains the fact that the number of F grades received by the students who participated in posttest2 was so small as to yield suspicious data.

In terms of accountable variance it appears that the extraction of the fourth factor by the A and B students allowed them to account for more scale variance than the C, D, and F students. An examination of three factor solutions for the A and B students shows accountable variance of 74% and 73% respectively. This still represents a slight increase over the percentage of variance accounted for by the three factor solutions for the C, D, and F students (whose total variance varies only one percentage point).

4.21 Advanced Analyses for Proficiency Levels

The advanced analyses stem from data evolved from students enrolled at the institutions in courses for which beginning public speaking was a prerequisite to enrollment.

Tables 4.21-1 through 4.21-4 represent the advanced factor analyses for A, B, C, and D students respectively. No student who participated in the advanced phase of the project received an F grade. For all four grade levels a four factor solution seemed most appropriate. It will be noted, however, that for the B students in the advanced courses only one criterion, eye contact loaded extremely high on the fourth extracted factor. This makes the four factor solution in violation of one of the criteria advanced in Section III of the report (that a factor have at least two items with their highest loading on it). For the purposes of interpretation this violation was allowed since it supported a high number of agreements across the four grade levels.

With respect to the content of the factors it can be seen that there is agreement between A, B, and C students in the advanced courses on 15 of the 19 scale items. This is represented by the loadings of evidence, logical reasoning, organization and preparation; imagination, interest, facial expression, enthusiasm, bodily movement, attitude, total effect, vividness and vocal inflection; physical appearance and poise. It is interesting to note that the factor represented by diction, fluency and word choice does stand for the A and C students as a separate factor but not as such for the B students. One possible explanation of this finding might lie in the wide range of qualities represented by the B students in advanced courses. Approximately 44% of the advanced students received a final grade of B. Adding the D students to the comparison reduces the agreement between grade levels to 10 of the 19 items. These include evidence, logical reasoning, organization and preparation; attitude, enthusiasm, facial expression and imagination; physical appearance and poise. Again, one can be legitimately suspicious of the effect of the D students because of the small number who received this designation.

In terms of accountable variance the four factor solution for the A students appears to represent a slightly higher percentage than for the B, C, and D students. It is worth noting that in all conditions under which data were collected it was the A students who accounted for the highest percentage of the scale variance.

4.22 Scale Item Reliability Across Proficiency Levels.

As was the case with the determination of scale item reliability across training levels the statistic employed on the data separated according to proficiency levels was that of the Intraclass Correlation. The data used for analysis were, however, transformed in that the coefficients reported represent means of the reliabilities established by students in the various combinations of institutions, film-sets, film showings, orders and to some extent, training levels.*

Table 4.22-1 represents the Intraclass Correlation coefficients for the 19 scale items for the beginning and advanced students at all proficiency levels. It will be noted that for the beginning students all grade levels are represented, but that no students in the advanced courses who participated in the project received an F grade. Because of the fact that not all grade levels were represented by the two types of students further analysis was limited to the effects of proficiency within the categories "beginning" and "advanced". Using the technique of analysis of variance it was found that there was a difference in the reliability coefficients given by the grade levels for the beginning and advanced students who participated in the project (.0005). However, there

*It will be noted from Table 4.22-1 that the reliability coefficients represent the grade levels of two classifications of students - beginning and advanced. This means that for the beginning students the mean reliability estimates reflect both the pretest and the posttest conditions of the research.

was no significant interaction between proficiency level and scale item. It was also found that advanced students at the various proficiency levels tended to have lower reliability than their counterparts in the beginning courses.

4.23 The Interaction of Training and Proficiency in Public Speaking on the Dimensionality of Speech Evaluation.

In order to discuss the effects of the interaction of training and proficiency in public speaking on the dimensionality of speech evaluation it will be necessary to review the data as summarized in previous articles. This time an attempt will be made to examine each grade level through the four conditions under which data were gathered.

Before going into the effects of training and proficiency in terms of the interaction of the two variables, the reader should remember that interaction is not being discussed in its true statistical sense. Such is really far beyond the scope of a factor analytic study. Instead interaction is here approached as an attempt to find a consistency of factor structure or structures across the logical combinations of essentially nominal classification systems. For the purposes of reporting the results of this quest for consistency, the following discussion will be subdivided according to grade levels and within each subdivision comparisons will be made among the various training levels (pretest, posttest1, posttest2,

and advanced).

4.24 The A Grade Evaluator Across Training Levels

Table 4.24-1 represents the means and standard deviations for the A grade evaluators across the four conditions under which data were gathered. There appears to be no consistent pattern of differences between the pretest and posttest means and standard deviations for the A grade evaluators in the beginning courses. As noted previously, however, the students receiving A grades in the advanced courses consistently gave mean scores below those given by the students in the beginning courses, regardless of the training level represented by the prerequisite. With respect to standard deviations there appears to be no difference attributable to training in public speaking for the A grade evaluators.

Tables 4.18-1, 4.19-1, 4.20-1, and 4.21-1 represent the factor analyses for the A grade evaluators across the four conditions under which data were gathered. In each condition a four factor solution was deemed most appropriate. With respect to the content of those factors it can be seen that 16 of the nineteen evaluative criteria cluster in a similar fashion across the four conditions of the research. These groupings are evidence, logical reasoning, organization, preparation; total effect, attitude, enthusiasm, facial expression, imagination, interest, vividness and vocal inflection;

diction, fluency and word choice; physical appearance. With respect to the three items not loading highest consistently across training levels (eye contact, bodily movement, and poise) there appears no reason to cite training levels as the explanation. In other words, when comparing the A students before a basic course, the A student after a basic course and the A students after an advanced course the same 16 items evolve a similar factor structure.

With respect to accountable variance again it can be seen that there is no consistent difference for the beginning students regardless of when the data were gathered. The highest percentage of the variance accounted for by a four factor solution was for students in posttest2. It was these students who had two attempts to use the rating scale and this added experience with it might have accounted for the higher percentage of variance. The lowest percentage of variance was for the A grade evaluators in the advanced courses. This difference is so slight as to suggest that it is more attributable to the confounding effects of eye contact, bodily movement and poise than any training level. With respect to the variance accounted for by the particular factors there appears to be a consistent rank ordering across the training levels. The fluctuations in the variances of these individual factors again seem more attributable to the variables eye contact, bodily movement and poise than to training.

On the basis of the evidence cited there appears for the A grade evaluators no reason to suspect an effect on the dimensionality of speech evaluation due to the interaction of training and proficiency in public speaking.

4.25 The B Grade Evaluator Across Training Levels

Table 4.25-1 represents the means and standard deviations for the B grade evaluators on the 19 evaluative criteria across the four conditions under which data were gathered. As in the case of the A grade evaluators, there appears no consistent pattern of differences between the pretest and posttests means and standard deviations for the evaluators in the beginning courses. Again, the B grade evaluators in the advanced courses assigned consistently lower ratings to the films they viewed than did the students in the beginning courses, but the variance across all four conditions under which data were gathered does not seem to differ in any recognizable fashion.

Tables 4.18-2, 4.19-2, 4.20-2, and 4.21-2 represent the factor analyses for the B grade evaluators across the four conditions under which data were gathered. It will be noted that the pretest data yielded a three factor solution. Both the posttests yielded four factor solutions. Between the two posttests there was agreement on 16 of the 19 scale items. The exceptions being total effect, eye contact and bodily movement. The inability of eye contact

and bodily movement to consistently cluster on an identifiable factor was also observed for the A grade evaluators. It appears from an examination of the factor structures represented by Tables 4.18-2, 4.19-2, and 4.20-2 that the B grade evaluators were able to clearly identify as a dimension of speech evaluation the criteria diction, fluency and word choice after having taken a basic course in public speaking. Table 4.21-2 reveals that the B grade evaluators enrolled in the advanced courses were not able to distinguish diction, fluency and word choice as a separate factor. With respect to the evidence-logical reasoning-etc., the imagination-interest-etc. and the physical appearance-poise factor there is general agreement among the B grade evaluators across the training levels.*

In terms of accountable variance it can be seen that for the beginning speech students the identification of a fourth factor of speech evaluation at the conclusion of the basic course enabled them to account for a higher percentage of the scale variance. The fact that the B evaluators in the advanced course seemed to have difficulty in holding to the content of a fourth factor for evaluation is also reflected in terms of accountable variance. It will be noted that for the advanced students the four factor solution accounted for

*These labels are assigned on the basis of the strongest loadings of items on a particular factor and are not meant to imply any theoretical consideration.

about as much of the scale variance as the three factor solution for the beginning speech students prior to their taking the basic course in public speaking. The rank order of the factors in terms of their contribution to the total accountable variance seems consistent across all training levels for the B grade evaluators.

On the basis of the evidence cited above there does appear to be an effect on dimensionality due to the interaction of proficiency and training in public speaking. It appears that for the B grade evaluator a beginning course in public speaking contributes to the dimensionality of speech evaluation in the respect that he is able to make such evaluations on the basis of four factors rather than three. The fourth factor on which discrimination between film qualities seemed to be made was one involving the evaluative criteria of diction, fluency and word choice. In this respect one might conclude that the B grade evaluator moves in the direction of the A grade evaluator as a result of a basic course in public speaking. It is interesting to note that the B grade evaluator represents approximately 31% of the beginning speech population. The B grade evaluator in the advanced course seems to provide almost an uninterpretable factor structure. The safest conclusion appears to be that there is no consistent evidence to indicate an effect on dimensionality that can be attributed to taking an advanced course in public speaking for B grade evaluators.

4.26 The C Grade Evaluator Across Training Levels

Table 4.26-1 represents the means and standard deviations for the C grade evaluators for the 19 criteria represented on the rating scale. As in the case of the A and B evaluators there appears no consistent pattern of difference between the pretest and posttests means and standard deviations for the evaluators in the beginning courses. Again, the C grade evaluators in the advanced courses assigned consistently lower ratings to the films they viewed than did their counterparts in the beginning courses, but the variance across all four conditions under which data were gathered does not seem to differ in a recognizable fashion.

Tables 4.18-3, 4.19-3, 4.20-3, and 4.21-3 represent the factor analysis for the C grade evaluators across the four conditions under which data were gathered. It will be noted that for all data involving the C grade evaluators in the beginning speech course a three factor solution seemed most appropriate. This particular solution shows consistent item clustering around three factors for 15 of the 19 evaluative criteria contained on the rating scale used in the research. The same factor structure seems to hold for both conditions of the posttests. The items which appear not to represent similarities of factor structure for the beginning students as the two stages of their training (before and after a course in basic public

speaking) are total effect, diction, eye contact, and fluency.

The reader will note that the criterion of eye contact was a consistent problem for all proficiency levels with respect to the establishment of factor structure. Furthermore, it is only with the C grade evaluation that we have been able to find to date the clear establishment of a diction, fluency, word choice factor as a result of having taken a basic course in public speaking. In comparing the factor structure evolved for data stemming from the C grade evaluator in the advanced courses we do find a four factor solution to be meaningful. Furthermore, the C grade evaluators in the advanced courses appear to be able to identify the diction, fluency, and word choice factor. With respect to the evidence-logical reasoning-etc. factor and the imagination-interest-etc. factor, the C grade evaluator is not really much different from his counterpart in the beginning course regardless of training level. It should be noted, however, that the poise-physical appearance factor previously identified does not appear to hold for the C student in the advanced course. The criterion physical appearance does link with eye contact to form an identifiable factor. It does appear that there is a significant relationship between the three factor structures of the C grade evaluator in the advanced courses and the B grade evaluators in the posttest1 condition of the research. Both of these student groups saw the same film sets at their respective institutions and both

evolved factor structures of four dimensions with agreement on 18 of the 19 scale items. This finding can be explained on the rationale that it is the students who do relatively well in basic courses in public speaking who enroll in the advanced courses. The close parallel between the factor structures of the A and B students at the conclusion of a basic course in public speaking to that of the C grade evaluator in the advanced course is evidence for this rationale. This finding also points to a lack of effect attributable to advanced training in public speaking with respect to the dimensionality of speech evaluation. It is interesting that the criterion which seems to lack consistency in a comparison of the A and B evaluator at the end of the basic course in public speaking with the C evaluator in the advanced course is the item of poise.

With respect to accountable variance there seems little difference between the solutions at different training levels for the C grade evaluator. For the three factor solution the individual factors have the same rank order across training levels. For the advanced C students the diction, fluency and word choice dimension replaces the poise-physical appearance dimension as the third strongest factor. In comparing the C grade evaluator to the A and B evaluator in the advanced courses we see less scale variance accounted for. This is also the case in comparing the C evaluator to the AB evaluators at the conclusion of the beginning courses.

despite the fact that the content of the factors is very similar.

The most warranted conclusion with respect to the C grade evaluator is that there is no evidence to indicate a significant effect on the dimensionality of speech evaluation due to training in public speaking. The fact that the C grade evaluator in the advanced courses does pick up a fourth factor is most reasonably explained by the idea that it is those students who do well in a basic course who then enroll in advanced courses.

4.27 The D Grade Evaluator Across Training Levels

Before making an attempt to determine the effects of the interaction of proficiency and training in public speaking on the dimensionality of speech evaluation it should be pointed out that the number of students receiving the D grade in the beginning courses totaled but 6.7% of the population and in the advanced courses 2.7%. In all instances the evolved factor structures represented less than 100 students at each training level. Such small sample sizes often yield less than consistent factor structures.

Table 4.27-1 represents the means and standard deviations for the D grade evaluators on the 19 criteria across the four conditions under which data were collected. As in the other comparisons there appear to be no consistent differences between the pretest and

posttests for the students in the beginning courses. The tendency for the D student in the advanced courses to rate the filmed speeches below their counterparts in the beginning courses is still apparent but less consistent across the 19 evaluative criteria than with the previously described grade levels.

Tables 4.18-4, 4.19-4, 4.20-4, and 4.21-4 represent the factor analyses for the D evaluators across the four conditions under which data were gathered. It will be noted that a three factor solution seemed most appropriate for those D students in the beginning speech courses. Across the training conditions for the beginning speech students receiving D grades there appears to be agreement with respect to factor structure on 11 of the 19 evaluative criteria contained on the rating scale. These include evidence, logical reasoning, organization and preparation; attitude, enthusiasm, facial expression, imagination and interest; physical appearance and poise. In comparing the two sets of data for the D students after they completed the basic course we see agreement on 12 of the 19 factors. The increase over the pretest is the loading of the single item vividness on the interest-imagination-etc dimension. This degree of consistency is below that observed at the other grade levels. In any event there seems to be no consistent evidence that the beginning course has any sufficient impact on the factor structure of D grade evaluators. For the D grade evaluator in the advanced

courses a four factor solution seems most appropriate. However, the structure is quite inconsistent with respect to other factor structures observed for students in the advanced courses. Again, this finding is invited given the small number of students who received D grades in advanced courses and given that the D evaluator represents the lowest proficiency level given. Thus, while the evolution of a fourth factor for the advanced D students is a consistent finding, the content of those factors with the exception of the evidence-logical reasoning-etc. one seems to defy comparison.

With respect to accountable variance there appears to be an incident in which the beginning speech students receiving D grades who saw the film which had been used in the pretest as their posttest (posttest1) were able to account for a larger percentage of the scale variance than those students who participated in both the pretest and posttest (posttest2). However, the inconsistency of factor content makes this result somewhat suspicious. The same conclusion seems justified with respect to the ordering of the individual factors in their contribution to the total amount of accountable variance.

For the D students there seems to be no consistent contribution of training at the beginning or advanced level to the dimensionality of speech evaluation.

4.28 The F Grade Evaluator Across Training Levels

The F grade evaluator in the beginning public speaking course represents less than two percent of the total sample used for the research. There were no F grade evaluators in the advanced courses. Again this relatively small sample size really works against the meaningful interpretation of data in any comparative sense. The material that follows will be limited to mere description of results obtained by running the statistical analysis required by the project on data representing the F proficiency level.

Table 4.28-1 represents the means and standard deviations for the F grade evaluators in the beginning speech courses. One easily can see that the means and standard deviations for the F grade evaluator seem to vary more than for any previously described proficiency level. With respect to the means there appears no consistent pattern that would indicate an effect due to training. The standard deviations do show a change with respect to those students receiving F grades who participated in both the pretest and the posttest (posttest2). It will be noted that there is a definite and consistent construction of the standard deviations in the posttest2 condition. However, this finding is inconsistent with the posttest1 condition for students receiving an F grade at the same training level. An examination of the data reveals a possible explanation of this finding. The F students in the posttest2

condition did not extend across all the institutions nor all the film sets used in the study. This latter fact could well explain the finding with respect to the standard deviations.

Tables 4.18-5, 4.19-5, and 4.20-5 represent the factor structures for the F grade evaluators across the training levels for the students enrolled in the beginning courses. For all conditions under which data were gathered the F proficiency level evolved a three factor solution. Across the training levels for the beginning students there was agreement with respect to factor content on only 6 of the 19 scale items. These were organization and preparation; imagination, interest, fluency and enthusiasm. In comparing the two posttest conditions for the F grade evaluator we see agreement on 12 of the 19 scale items. These items include logical reasoning, interest, imagination, facial expression, evidence, enthusiasm and attitude; preparation, vocal inflection, organization, eye contact and total effect. It is interesting that these comparisons involve only two of the three identifiable factors. With respect to factor structure there seems to be no consistent evidence of an effect due to training on the F grade evaluator's perception of speech evaluation.

With respect to accountable variance there is a slight increase in the total percentage of those beginning students who complete the basic course and still receive an F grade. Because

of the lack of consistency in regard to factor content it seems unwise to draw any conclusion with respect to the rank order of the factors in terms of their contribution to the total variance.

Because of the small sample size, the fact that there were no F grade evaluators in the advanced courses, and the lack of factor consistency it would appear that there is no evidence to support an effect due to training on the dimensionality of speech evaluation for the F grade proficiency level.

4.29 Scale Item Reliability for Proficiency Levels Across Training Levels.

The data used in the determination of the scale item reliability in this section of the report represent the mean Intraclass Correlation coefficients for the various combinations of institutions, film-sets, film showings, and orders while maintaining the divisions representing both training and proficiency levels. The number of actual coefficients used to determine the mean reliability estimates varied, particularly with the sample sizes and film showings at the participating institutions. However, each item of data represented the composite of at least six Intraclass Correlation coefficients.

Table 4.29-1 represents the reliability estimates for the 19 scale items for each proficiency level across the test conditions. It will be noted that both posttest1 and posttest2 conditions represent data gathered from students who had completed a basic course in

public speaking (training level 2). In addition, it will be recalled that there were no F students in the advanced condition of the research (training level 3). In order to further analyze the reliability estimates it was necessary to: (1) use the posttest1 data as representative of training level 2; and (2) examine only the proficiency levels that extended across all three training levels (A, B, C, and D students). Using a modified analysis of variance technique it was determined that there was a significant degree of interaction between training and proficiency levels in terms of scale item reliability (.0005). This result would be expected given the results discussed in articles 4.16 and 4.22. The safest conclusions that can be made are that in general those students most affected by a basic course in public speaking (the B and C proficiency levels) had slightly less reliability in using the project rating form after the course than before. For the students least affected (A and D) there was a general increase in reliability as a result of the basic course training. Furthermore, additional training (as represented by an advanced course) tended to result in a lowering of reliability for the B, C, and D students across the 19 scale items. These results fairly well parallel those of the effects of training

and proficiency on factor structure.*

4.30 Summary of Section

The conclusions based on the results cited in this section will constitute the basis for the final section. It is enough to say here that care was taken in the processing of data to maintain those divisions which would best reflect the objectives of the project. While to some extent the maintenance of these divisions has resulted in a redundant narrative, the reader might be reminded that such repetition is an inherent byproduct of factor analytic research.

*As a check on these findings the same statistical analysis was performed on the mean reliability estimates using the posttest2 data as representative of training level 2. The results are similar to those discussed above except that for the B grade evaluator in the advanced condition there was no significant drop in reliability when compared to his counterpart at training level 2.

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TABLES FOR SECTION IV

TABLE 4.2-1
Results of the Student Questionnaire

Question	Beginning Freq.	%	Advanced Freq.	%
1. Have you ever had a high school level public speaking course?				
Yes	1193	37	291	53
No	1924	61	241	46
Other	63	2	5	1
2. Have you ever had a college level public speaking course?				
Yes (at this institution)	625	19	412	75
Yes (at another institution)	60	2	56	10
No	2240	75	50	9
Other	135	4	29	6
3. If you have taken a public speaking course prior to this one was it:				
A prerequisite to your present course and taken at this institution.	60	2	327	60
An equivalent prerequisite to your present courses and taken at another institution.	35	1	62	11
A speech course not prerequisite to your present course.	703	22	63	11
Other	2460	75	95	18

Table 4.2-1 (cont.)

4. Is this course the basic public speaking class offered at your university?	Yes	2508	77	74	14
	No	480	15	460	84
	Don't Know	262	8	13	2
5. Does this course have basic public speaking as a prerequisite?	Yes	142	4	488	89
	No	2930	90	47	9
	Don't Know	187	6	12	2
6. With which university or college department is the course you are now taking listed?	Comm.	128	4	10	2
	Eng.	182	6	49	9
	Speech	2684	82	459	84
	Other	168	5	19	3
	Don't Know	97	3	10	2
7. At this time how would you grade yourself as a public speaker?	A	166	5	107	19
	B	1282	39	356	65
	C	1428	44	60	11
	D	221	7	5	1
	F	23	1	1	1
	No Grade	139	4	18	3

Table 4.2-1 (cont.)

8. What is your class standing?

Fr.	982	30	33	6
So.	1021	31	121	22
Jr.	709	22	212	39
Sr.	451	14	161	29
Grad.	10	.3	8	2
Other	86	2.7	12	2

9. What is your major?

R-TV	90	3	46	8
R-PA	9	.3	25	4
Sp. Ed.	95	3	58	11
Sp. Sc.	26	.7	10	2
Th-R	44	1	21	4
Other	2995	92	387	71

TABLE 4.5-1
MEANS AND STANDARD DEVIATIONS FOR SELF-PERCEPTION DATA

Criteria	Pretest		Posttest		Advanced	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	4.41	1.0	4.95	0.8	5.24	1.0
Attitude	4.96	1.1	5.32	1.1	5.58	1.2
Bodily Movement	4.15	1.1	4.67	1.1	4.61	1.2
Diction	4.46	1.2	4.93	1.1	5.01	1.2
Enthusiasm	4.93	1.2	5.27	1.2	5.49	1.2
Evidence	4.59	1.2	5.25	1.1	5.25	1.2
Eye Contact	4.56	1.4	5.17	1.3	5.41	1.3
Facial Expression	4.42	1.3	4.74	1.2	5.06	1.3
Fluency	4.24	1.2	4.81	1.1	5.02	1.2
Imagination	4.64	1.2	5.08	1.1	5.27	1.2
Interest	4.98	1.1	5.31	1.1	5.53	1.2
Logical Reasoning	4.70	1.2	5.29	1.0	5.23	1.2
Organization	4.62	1.1	5.30	1.1	5.33	1.1
Physical Appearance	5.03	1.1	5.45	1.1	5.50	1.2
Poise	4.48	1.2	5.00	1.1	5.21	1.2
Preparation	4.70	1.2	5.08	1.3	5.23	1.2
Vividness	4.32	1.1	4.82	1.1	5.00	1.1
Vocal Inflection	4.38	1.2	4.84	1.1	5.10	1.2
Word Choice	4.31	1.2	4.84	1.1	5.06	1.2

TABLE 4.5-2
 FACTOR ANALYSIS TRAINING LEVEL 1 - PRETEST CONDITION
 SELF-PERCEPTIONS
 4 Factor Solution - 1811 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.5733				
Attitude			-.7246		
Bodily Movement	.6499				
Diction	.5640				
Enthusiasm			-.7516		
Evidence		-.7597			
Eye Contact	.6202				
Facial Expression	.7513				
Fluency	.6404				
Imagination			-.5106		
Interest			-.6588		
Logical Reasoning		-.7778			
Organization		-.7509			
Physical Appearance				-.6669	
Poise	.6271				
Preparation				-.5467	
Vividness	.5750				
Vocal Inflection	.7321				
Word Choice	.4989				
Variance	24	18	14	9	65
Eigenvalues	8.8	1.5	1.1	.8	

TABLE 4.5-3
 FACTOR ANALYSIS TRAINING LEVEL 2 - POSTTEST CONDITION
 SELF-PERCEPTIONS
 4 Factor Solution - 1475 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5187				
Attitude	.6337				
Bodily Movement				.4329	
Diction			.6621		
Enthusiasm	.7727				
Evidence		.7680			
Eye Contact				.6147	
Facial Expression	.6171				
Fluency			.6880		
Imagination	.5576				
Interest	.7317				
Logical Reasoning		.7937			
Organization		.7831			
Physical Appearance				.6464	
Poise				.6857	
Preparation		.5765			
Vividness			.5417		
Vocal Inflection			.5725		
Word Choice			.7089		
Variance	19	16	17	12	64
Eigenvalues	8.5	1.6	1.1	.9	

TABLE 4.5-4
 FACTOR ANALYSIS TRAINING LEVEL 3 - ADVANCED CONDITION
 SELF-PERCEPTIONS
 4 Factor Solution - 562 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect			-.4587		
Attitude			-.7828		
Bodily Movement				-.6902	
Diction	.5666				
Enthusiasm			-.7474		
Evidence		.7638			
Eye Contact				-.6884	
Facial Expression	.5633				
Fluency	.7542				
Imagination	.6616				
Interest			-.6498		
Logical Reasoning		.7859			
Organization		.7176			
Physical Appearance				-.5846	
Poise				-.6635	
Preparation			-.5642		
Vividness	.6627				
Vocal Inflection	.7160				
Word Choice	.6784				
Variance	21	15	16	15	67
Eigenvalues	9.3	1.4	1.2	.8	

TABLE 4.7-1
MEANS AND STANDARD DEVIATIONS PER FILM QUALITY
PRETEST

Criteria	Low		Middle		High	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	2.88	1.2	4.11	1.1	4.82	1.3
Attitude	3.54	1.2	4.63	1.1	5.06	1.2
Bodily Movement	2.90	1.5	3.79	1.4	4.53	1.4
Diction	3.31	1.4	4.05	1.2	4.73	1.2
Enthusiasm	3.35	1.4	4.16	1.3	4.73	1.3
Evidence	3.42	1.5	4.55	1.4	5.17	1.4
Eye Contact	3.26	1.5	4.09	1.3	4.95	1.5
Facial Expression	3.02	1.3	4.03	1.3	4.34	1.2
Fluency	2.76	1.4	3.79	1.2	4.69	1.3
Imagination	3.06	1.4	3.85	1.2	4.55	1.4
Interest	3.41	1.5	4.43	1.4	5.00	1.4
Logical Reasoning	3.08	1.4	4.27	1.3	4.79	1.5
Organization	2.97	1.5	4.30	1.4	4.97	1.5
Physical Appearance	4.30	1.5	5.07	1.2	5.31	1.3
Poise	3.00	1.4	4.45	1.3	4.98	1.3
Preparation	3.26	1.4	4.73	1.3	5.35	1.4
Vividness	2.87	1.3	3.88	1.3	4.62	1.4
Vocal Inflection	2.98	1.4	3.80	1.2	4.61	1.3
Word Choice	3.31	1.4	3.94	1.2	4.70	1.3

TABLE 4.7-2
 FACTOR ANALYSIS PRETEST DATA ON THE LOW SPEECHES
 4 Factor Solution - 1811 Observations

Criteria	Factors			
	I	II	III	IV
Total Effect			-.5115	
Attitude				-.6937
Bodily Movement		-.6225		
Diction	.6690			
Enthusiasm				
Evidence			-.6866	-.8037
Eye Contact		-.6064		
Facial Expression	.5695			
Fluency	.7500			
Imagination	.5299			
Interest				-.7162
Logical Reasoning			-.8165	
Organization			-.8258	
Physical Appearance				
Poise		-.7233		
Preparation		-.6107	-.6291	
Vividness	.5492			
Vocal Inflection	.7408			
Word Choice	.6205			
Variance	21	13	19	14
Eigenvalues	9.5	1.3	1.0	1.0
				67

TABLE 4.7-3
 FACTOR ANALYSIS PRETEST DATA ON THE MIDDLE SPEECHES
 4 Factor Solution - 1811 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.5178				
Attitude				-.6860	
Bodily Movement				-.4816	
Diction		.7317			
Enthusiasm				-.7686	
Evidence	.7554				
Eye Contact			.5288		
Facial Expression				-.5849	
Fluency		.7285			
Imagination				-.5265	
Interest				-.6751	
Logical Reasoning	.7914				
Organization	.8149				
Physical Appearance			.8662		
Poise			.6587		
Preparation	.7359				
Vividness		.4814			
Vocal Inflection		.6610			
Word Choice		.6442			
Variance	21	18	10	18	67
Eigenvalues	9.3	1.5	1.1	1.0	

TABLE 4.7-4
FACTOR ANALYSIS PRETEST DATA ON THE HIGH SPEECHES
4 Factor Solution - 1811 Observations

Criteria	I	II	III	IV	Total
Total Effect	.6428				
Attitude			.5060		
Bodily Movement			.5054		
Diction				-.7802	
Enthusiasm			.6614		
Evidence					
Eye Contact	.7738		.6509		
Facial Expression			.7881		
Fluency				-.6431	
Imagination			.5531		
Interest	.5714				
Logical Reasoning	.8224				
Organization	.8009				
Physical Appearance		.8553			
Poise		.6266			
Preparation	.6595				
Vividness			.5654		
Vocal Inflection			.5533		
Word Choice				-.6647	
Variance	25	11	22	15	73
Eigenvalues	10.9	1.2	.9	.8	

TABLE 4.8-1
MEANS AND STANDARD DEVIATIONS PER FILM QUALITY
POSTTEST 1

Criteria	Low		Middle		High	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	2.89	1.2	4.12	1.2	4.71	1.3
Attitude	3.51	1.2	4.55	1.1	4.99	1.2
Bodily Movement	2.88	1.4	3.73	1.3	4.47	1.4
Diction	3.35	1.3	4.18	1.2	4.77	1.2
Enthusiasm	3.20	1.3	4.06	1.3	4.67	1.3
Evidence	3.31	1.4	4.48	1.4	4.83	1.5
Eye Contact	3.31	1.5	5.00	1.3	4.86	1.6
Facial Expression	2.99	1.2	4.05	1.2	4.32	1.3
Fluency	2.79	1.3	3.99	1.3	4.70	1.3
Imagination	3.01	1.3	3.95	1.3	4.51	1.4
Interest	3.25	1.4	4.34	1.4	4.84	1.4
Logical Reasoning	3.04	1.4	4.32	1.3	4.61	1.5
Organization	2.97	1.4	4.37	1.4	4.66	1.6
Physical Appearance	4.44	1.4	5.12	1.2	5.32	1.4
Poise	3.03	1.3	4.46	1.2	4.96	1.3
Preparation	3.20	1.4	4.68	1.3	5.19	1.4
Vividness	2.81	1.3	3.90	1.2	4.54	1.4
Vocal Inflection	2.94	1.4	3.80	1.3	4.55	1.3
Word Choice	3.28	1.4	4.06	1.2	4.72	1.3

TABLE 4.8-2
FACTOR ANALYSIS POSTTESTI DATA ON THE LOW SPEECHES
4 Factor Solution - 1475 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.5234				
Attitude		-.7221			
Bodily Movement				.4812	
Diction			.7142		
Enthusiasm		-.8227			
Evidence	.6857				
Eye Contact		-.5669		.4932	
Facial Expression					
Fluency			.7353		
Imagination			.4890		
Interest		-.6953			
Logical Reasoning	.8179				
Organization	.8209				
Physical Appearance					
Poise				.8012	
Preparation	.6050			.4869	
Vividness			.5398		
Vocal Inflection			.7171		
Word Choice			.6756		
Variance	20	18	20	10	68
Eigenvalues	10.0	1.2	1.0	.9	

TABLE 4.8-3
 FACTOR ANALYSIS POSTTESTI DATA ON THE MIDDLE SPEECHES
 4 Factor Solution - 1475 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.5752				
Attitude	.6635				
Bodily Movement	.5129				
Diction				.6799	
Enthusiasm	.7705				
Evidence		.8022			
Eye Contact			.5157		
Facial Expression	.6523				
Fluency				.6707	
Imagination	.5987				
Interest	.6960				
Logical Reasoning		.8103			
Organization	.8120				
Physical Appearance			.8678		
Poise			.6766		
Preparation		.6377			
Vividness	.5856				
Vocal Inflection	.5435				
Word Choice				.6514	
Variance	22	20	11	15	68
Eigenvalues	9.8	1.5	1.0	.8	

TABLE 4.8-4
FACTOR ANALYSIS POSTTEST1 DATA ON THE HIGH SPEECHES
4 Factor Solution - 1475 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.6197				
Attitude			-.6705		
Bodily Movement		.5794		.7500	
Diction			-.7808		
Enthusiasm			-.5881		
Evidence	.7431		-.6605		
Eye Contact			-.6254		
Facial Expression			-.6947	.4445	
Fluency					
Imagination					
Interest					
Logical Reasoning	.7965				
Organization	.8048				
Physical Appearance		.7852			
Poise		.7089			
Preparation	.6664				
Vividness			-.5948		
Vocal Inflection				.5616	
Word Choice				.5804	
Variance	24	14	23	12	73
Eigenvalues	11.0	1.3	.8	.7	

TABLE 4.9-1
MEANS AND STANDARD DEVIATIONS PER FILM QUALITY
POSTTEST 2

Criteria	Low		Middle		High	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	3.07	1.2	4.12	1.1	4.95	1.1
Attitude	3.63	1.2	4.41	1.0	5.11	1.1
Bodily Movement	3.21	1.4	3.77	1.2	4.32	1.3
Diction	3.30	1.4	4.21	1.2	4.69	1.2
Enthusiasm	3.33	1.3	3.94	1.2	4.93	1.2
Evidence	3.45	1.4	4.61	1.3	5.04	1.3
Eye Contact	3.87	1.5	4.75	1.2	5.17	1.3
Facial Expression	3.13	1.2	3.92	1.1	4.51	1.2
Fluency	2.92	1.3	3.93	1.2	4.81	1.2
Imagination	3.03	1.3	3.83	1.2	4.62	1.3
Interest	3.29	1.3	4.10	1.3	5.12	1.3
Logical Reasoning	3.34	1.4	4.40	1.3	4.76	1.3
Organization	3.22	1.5	4.62	1.4	4.96	1.3
Physical Appearance	4.62	1.3	4.94	1.1	5.00	1.2
Poise	3.30	1.3	4.29	1.1	4.91	1.2
Preparation	3.53	1.4	4.65	1.2	5.30	1.2
Vividness	2.92	1.2	3.86	1.2	4.84	1.3
Vocal Inflection	2.93	1.3	3.89	1.2	4.83	1.2
Word Choice	3.23	1.3	4.12	1.2	4.60	1.3

TABLE 4.9-2
 FACTOR ANALYSIS POSTTEST2 DATA ON THE LOW SPEECHES
 4 Factor Solution - 948 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5822				
Attitude		.6800			
Bodily Movement				.4260	
Diction				.7318	
Enthusiasm		.8660			
Evidence	.7362				
Eye Contact			.4901		
Facial Expression		.5602		.7037	
Fluency					
Imagination		.5121			
Interest		.6662			
Logical Reasoning	.8167				
Organization	.8449				
Physical Appearance			.8532		
Poise				.5724	
Preparation	.7219				
Vividness				.5032	
Vocal Inflection				.7519	
Word Choice				.6750	
Variance	24	17	9	21	71
Eigenvalues	10.5	1.3	.9	.8	

TABLE 4.9-3
 FACTOR ANALYSIS POSTTEST2 DATA ON THE MIDDLE SPEECHES
 4 Factor Solution - 948 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.6324				
Attitude	.6529				
Bodily Movement			-.4341	-.7704	
Diction					
Enthusiasm	.7844				
Evidence		.7733			
Eye Contact	.5430				
Facial Expression	.6976			-.5952	
Fluency					
Imagination	.7308				
Interest	.7762				
Logical Reasoning		.7804			
Organization		.7629			
Physical Appearance			-.8037		
Poise			-.6127		
Preparation		.5301			
Vividness	.7040				
Vocal Inflection				-.5667	
Word Choice				-.6437	
Variance	26	17	11	15	69
Eigenvalues	9.7	1.3	1.1	.8	

TABLE 4.9-4
 FACTOR ANALYSIS POSTTEST2 DATA ON THE HIGH SPEECHES
 4 Factor Solution - 948 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.6947				
Attitude		-.5442			
Bodily Movement				-.5593	
Diction			.7711		
Enthusiasm		-.7561			
Evidence	.7628				
Eye Contact		-.6221			
Facial Expression		-.7783			
Fluency			.6996		
Imagination		-.6169			
Interest		-.6545			
Logical Reasoning	.8323				
Organization	.7715				
Physical Appearance				-.8482	
Poise				-.5569	
Preparation	.5931				
Vividness		-.6460			
Vocal Inflection		-.6397			
Word Choice			.6711		
Variance	23	23	14	11	71
Eigenvalues	9.9	1.4	1.3	.8	

TABLE 4.10-1
MEANS AND STANDARD DEVIATIONS ADVANCED
PER FILM QUALITY

Criteria	Low		Middle		High	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	2.84	1.2	3.56	1.2	4.27	1.3
Attitude	3.39	1.2	4.11	1.3	4.69	1.2
Bodily Movement	2.86	1.4	3.40	1.3	4.06	1.3
Diction	3.19	1.4	3.86	1.2	4.34	1.3
Enthusiasm	2.96	1.4	3.44	1.4	4.41	1.3
Evidence	3.20	1.5	4.09	1.5	4.26	1.6
Eye Contact	3.68	1.5	4.51	1.4	4.52	1.5
Facial Expression	2.91	1.3	3.46	1.3	4.09	1.3
Fluency	2.83	1.3	3.40	1.3	4.22	1.3
Imagination	2.89	1.4	3.20	1.4	4.01	1.4
Interest	3.06	1.4	3.67	1.5	4.63	1.4
Logical Reasoning	2.85	1.3	3.87	1.3	3.90	1.6
Organization	2.92	1.4	4.14	1.4	4.21	1.6
Physical Appearance	4.30	1.4	4.86	1.3	5.12	1.3
Poise	3.06	1.2	3.98	1.2	4.55	1.2
Preparation	3.40	1.4	4.28	1.4	4.83	1.3
Vividness	2.70	1.3	3.33	1.3	4.23	1.4
Vocal Inflection	2.74	1.4	3.25	1.4	4.24	1.3
Word Choice	3.00	1.3	3.58	1.3	3.96	1.4

TABLE 4.10-2
FACTOR ANALYSIS FOR ADVANCED DATA ON LOW SPEECH
5 Factor Solution - 562 Observations

Criteria	Factors					Total
	I	II	III	IV	V	
Total Effect		.5009				
Attitude	.7142					
Bodily Movement	.4782					
Diction			-.7776			
Enthusiasm	.8356					
Evidence		.6898			.8536	
Eye Contact					.6157	
Facial Expression						
Fluency			-.6736			
Imagination			-.5088			
Interest	.7489					
Logical Reasoning		.7941				
Organization		.8239				
Physical Appearance				.8192		
Poise				.5906		
Preparation		.6433				
Vividness	.5039					
Vocal Inflection			-.6769			
Word Choice			-.7233			
Variance	17	18	18	8	9	70
Eigenvalues	9.1	1.3	1.1	1.1	.8	

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TABLE 4.10-3
 FACTOR ANALYSIS FOR ADVANCED DATA ON MIDDLE SPEECH
 5 Factor Solution - 562 Observations

Criteria	Factors				
	I	II	III	IV	Total
Total Effect	.5717				
Attitude	.6325				
Bodily Movement	.4875				
Diction			.7857		
Enthusiasm	.7989				
Evidence		.7222			
Eye Contact				.7694	
Facial Expression	.6851				
Fluency			.5868		
Imagination	.7364				
Interest	.7103				
Logical Reasoning		.7596			
Organization		.8011			
Physical Appearance				.7161	
Poise				.5525	
Preparation		.5509			
Vividness	.7089				
Vocal Inflection	.6033				
Word Choice			.6283		
Variance	25	17	14	12	68
Eigenvalues	9.5	1.3	1.1	1.1	

TABLE 4.10-4
 FACTOR ANALYSIS FOR ADVANCED DATA ON HIGH SPEECHES
 4 Factor Solution - 562 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect		-.6626			
Attitude				-.7101	
Bodily Movement			-.4699		
Diction			-.6695		
Enthusiasm				-.9056	
Evidence		-.7210			
Eye Contact	.8026				
Facial Expression	.6500				
Fluency			-.4710		
Imagination	.4762				
Interest				-.6008	
Logical Reasoning		-.8510			
Organization		-.7981			
Physical Appearance			-.7964		
Poise			-.6218		
Preparation		-.5969			
Vividness	.5298				
Vocal Inflection				-.5721	
Word Choice		-.5402			
Variance	14	22	14	18	68
Eigenvalues	9.2	1.4	1.2	.9	

TABLE 4.13-1
MEANS AND STANDARD DEVIATIONS ACROSS THE THREE TRAINING LEVELS

Criteria	Pretest		Posttest 1		Posttest 2		Advanced	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	4.01	1.4	3.97	1.4	4.05	1.4	3.56	1.3
Attitude	4.43	1.3	4.37	1.3	4.39	1.3	4.06	1.4
Bodily Movement	3.80	1.5	3.73	1.4	3.77	1.4	3.44	1.4
Diction	4.06	1.4	4.15	1.4	4.07	1.4	3.80	1.4
Enthusiasm	4.09	1.4	4.00	1.4	4.06	1.4	3.61	1.5
Evidence	4.43	1.6	4.31	1.6	4.37	1.5	3.86	1.6
Eye Contact	4.48	1.6	4.45	1.6	4.60	1.4	4.23	1.5
Facial Expression	3.84	1.4	3.83	1.3	3.86	1.3	3.49	1.4
Fluency	3.80	1.5	3.90	1.5	3.89	1.5	3.48	1.5
Imagination	3.85	1.4	3.87	1.4	3.83	1.4	3.37	1.4
Interest	4.30	1.5	4.18	1.5	4.17	1.5	3.79	1.6
Logical Reasoning	4.14	1.5	4.10	1.6	4.17	1.5	3.51	1.5
Organization	4.20	1.7	4.12	1.6	4.27	1.6	3.76	1.6
Physical Appearance	4.93	1.4	4.98	1.3	4.85	1.2	4.76	1.4
Poise	4.22	1.5	4.24	1.5	4.17	1.4	3.90	1.4
Preparation	4.54	1.6	4.45	1.6	4.50	1.5	4.17	1.5
Vividness	3.87	1.5	3.80	1.5	3.87	1.5	3.42	1.5
Vocal Inflection	3.85	1.5	3.83	1.5	3.88	1.5	3.41	1.5
Word Choice	4.02	1.4	4.03	1.4	3.99	1.4	3.51	1.4

TABLE 4.13-2
 FACTOR ANALYSIS FOR DATA COLLECTED FOR THE PRETEST CONDITION
 3 Factor Solution - 5433 Observations

Criteria	Factors			Total
	I	II	III	
Total Effect	.6048			
Attitude	.6120			
Bodily Movement	.5442			
Diction	.5065			
Enthusiasm	.8042			
Evidence		.7841		
Eye Contact			.4987	
Facial Expression	.7497			
Fluency	.6342			
Imagination	.6595			
Interest	.6769			
Logical Reasoning		.8333		
Organization		.8162		
Physical Appearance			.8473	
Poise			.6434	
Preparation		.6894		
Vividness	.6883			
Vocal Inflection	.7591			
Word Choice		.5306		
Variance	31	25	14	70
Eigenvalues	11.4	1.1	.9	

TABLE 4.14-1
 FACTOR ANALYSIS FOR DATA COLLECTED FOR POSTTEST1 CONDITION
 4 Factor Solution - 4425 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.5894				
Attitude	.7172				
Bodily Movement	.4803			.7515	
Diction					
Enthusiasm	.8071				
Evidence		.7727			
Eye Contact	.5022				
Facial Expression	.6877			.6297	
Fluency					
Imagination	.6327				
Interest	.7396				
Logical Reasoning		.8125			
Organization		.7936			
Physical Appearance			.8614		
Poise			.5340		
Preparation		.6296			
Vividness	.6167				
Vocal Inflection	.5512				
Word Choice				.6838	
Variance	26	22	10	17	75
Eigenvalues	11.7	1.0	.8	.7	

TABLE 4.14-2
 FACTOR ANALYSIS FOR DATA COLLECTED FOR POSTTEST2 CONDITION
 4 Factor Solution - 2844 Observations

Criteria	Factors				Total
	I	II	III	IV	
Total Effect	.5706				
Attitude	.6851				
Bodily Movement				-.5011	
Diction				-.7853	
Enthusiasm	.8303				
Evidence		.7537			
Eye Contact	.4842				
Facial Expression	.7305				
Fluency				-.6165	
Imagination	.6651				
Interest	.7376				
Logical Reasoning		.8130			
Organization		.7994			
Physical Appearance			.9044		
Poise			.5037		
Preparation		.6664			
Vividness	.6697				
Vocal Inflection	.6017				
Word Choice				-.6717	
Variance	27	24	8	17	76
Eigenvalues	11.7	1.0	1.0	.7	

TABLE 4.15-1
 FACTOR ANALYSIS FOR DATA COLLECTED FOR THE ADVANCED CONDITION
 4 Factor Solution - 1682 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5894				
Attitude	.6415				
Bodily Movement	.4917		.7802		
Diction					
Enthusiasm	.8300				
Evidence		.7336		.7085	
Eye Contact					
Facial Expression	.7299				
Fluency			.5424		
Imagination	.6752				
Interest	.7426				
Logical Reasoning		.8264			
Organization		.7979		.7022	
Physical Appearance				.4929	
Poise					
Preparation		.5738			
Vividness	.6933				
Vocal Inflection	.6711		.6362		
Word Choice					
Variance	28	19	14	10	71
Eigenvalues	10.3	1.2	1.0	.9	

TABLE 4.15-2
FACTOR ANALYSIS FOR DATA COLLECTED FOR THE ADVANCED CONDITION
5 Factor Solution - 1682 Observations

Criteria	Factors				
	I	II	III	IV	V
Total Effect		.5300			
Attitude					.7078
Bodily Movement					.6523
Diction	.6816				.7946
Enthusiasm					
Evidence		.7313		.8215	
Eye Contact				.5736	
Facial Expression					
Fluency	.6745				
Imagination	.5066				.6729
Interest					
Logical Reasoning		.8261			
Organization		.8006			
Physical Appearance			.7968		
Poise			.5353		
Preparation		.5772			
Vividness	.5381				
Vocal Inflection	.6540				
Word Choice	.6825				
Variance	18	19	9	9	19
Eigenvalues	10.3	1.2	1.0	.9	.7
					74

TABLE 4.16-1
SCALE ITEM RELIABILITY ACROSS TRAINING LEVELS

Scale Item	Training Level 1		Training Level 2		Training Level 3	
	Pretest	Posttest 1	Posttest 2	Posttest 2	Advanced	Advanced
Total Effect	.938	.968		.950		.885
Attitude	.938	.967		.880		.810
Bodily Movement	.860	.918		.880		.788
Diction	.893	.930		.853		.768
Enthusiasm	.903	.958		.865		.750
Evidence	.828	.838		.828		.840
Eye Contact	.915	.948		.938		.855
Facial Expression	.913	.923		.883		.778
Fluency	.915	.933		.940		.875
Imagination	.875	.938		.865		.808
Interest	.948	.965		.868		.805
Logical Reasoning	.780	.798		.775		.800
Organization	.853	.903		.803		.870
Physical Appearance	.693	.758		.653		.735
Poise	.900	.960		.940		.903
Preparation	.898	.940		.938		.865
Vividness	.940	.950		.408		.815
Vocal Inflection	.883	.905		.895		.865
Word Choice	.758	.835		.820		.695

TABLE 4.17-1
GRADE DISTRIBUTIONS ACROSS RESEARCH CONDITIONS

Condition	A	%	B	%	C	%	D	%	F	%	Grade Unknown	Grade Point
Pretest	197	11.5	591	34.5	803	46.9	87	5.1	34	2.0	99	2.48
Posttest 1	206	14.2	501	34.5	619	42.6	94	6.5	32	2.2	23	2.52
Posttest 2	107	11.3	359	38.0	428	45.3	41	4.3	10	1.0	3	2.54
Advanced	128	22.9	248	44.1	168	30.1	15	3.0	-	0.0	3	2.87

TABLE 4.17-2
MEANS AND STANDARD DEVIATIONS FOR PRETEST CONDITION
Per Grade Level

Criteria	A		B		C		D		F	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	3.93	1.5	3.98	1.4	3.95	1.4	4.08	1.4	3.98	1.3
Attitude	4.45	1.4	4.38	1.3	4.39	1.4	4.49	1.3	4.34	1.2
Bodily Movement	3.69	1.6	3.75	1.5	3.77	1.5	3.81	1.4	4.04	1.5
Diction	4.16	1.4	3.96	1.4	4.06	1.4	4.04	1.4	4.01	1.3
Enthusiasm	4.06	1.5	4.05	1.4	4.05	1.5	4.14	1.4	3.97	1.5
Evidence	4.29	1.6	4.42	1.6	4.35	1.6	4.56	1.4	4.55	1.4
Eye Contact	4.40	1.8	4.43	1.6	4.45	1.6	4.69	1.5	4.30	1.5
Facial Expression	3.80	1.5	3.78	1.4	3.81	1.4	4.03	1.4	3.81	1.2
Fluency	3.71	1.6	3.74	1.5	3.80	1.5	3.89	1.4	3.89	1.3
Imagination	3.88	1.5	3.77	1.4	3.77	1.5	3.98	1.3	3.90	1.3
Interest	4.23	1.6	4.25	1.5	4.25	1.6	4.31	1.5	4.40	1.4
Logical Reasoning	3.99	1.6	4.16	1.5	4.00	1.6	4.30	1.4	4.24	1.3
Organization	4.01	1.6	4.17	1.7	4.11	1.7	4.36	1.5	4.20	1.7
Physical Appearance	5.15	1.4	4.76	1.4	4.94	1.4	4.92	1.3	5.03	1.1
Poise	4.32	1.6	4.03	1.5	4.20	1.5	4.36	1.5	4.21	1.4
Preparation	4.41	1.7	4.52	1.6	4.48	1.6	4.64	1.5	4.54	1.6
Vividness	3.85	1.6	3.80	1.5	3.78	1.5	4.03	1.3	3.93	1.3
Vocal Inflection	3.79	1.6	3.82	1.5	3.78	1.5	4.56	1.5	3.94	1.4
Word Choice	3.93	1.4	3.94	1.4	3.96	1.4	4.08	1.3	4.30	1.3

TABLE 4.17-3
MEANS AND STANDARD DEVIATIONS FOR POSTTEST1 CONDITION
Per Grade Level

Criteria	A		B		C		D		F	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	3.86	1.5	3.96	1.5	4.02	1.3	3.90	1.4	4.29	1.4
Attitude	4.33	1.4	4.41	1.4	4.35	1.2	4.34	1.3	4.47	1.3
Bodily Movement	3.67	1.5	3.70	1.5	3.79	1.4	3.62	1.5	3.85	1.3
Diction	4.13	1.4	4.15	1.4	4.16	1.3	4.12	1.4	4.07	1.2
Enthusiasm	3.89	1.5	4.04	1.5	4.03	1.3	3.91	1.4	4.07	1.3
Evidence	4.25	1.6	4.25	1.6	4.38	1.5	4.29	1.5	4.57	1.4
Eye Contact	4.43	1.6	4.41	1.7	4.50	1.5	4.35	1.6	4.52	1.3
Facial Expression	3.80	1.4	3.81	1.4	3.87	1.3	3.77	1.3	4.03	1.2
Fluency	3.85	1.5	3.87	1.6	3.93	1.4	3.87	1.5	4.03	1.4
Imagination	3.83	1.5	3.85	1.5	3.90	1.4	3.81	1.4	4.12	1.3
Interest	4.11	1.5	4.19	1.6	4.19	1.4	4.14	1.4	4.24	1.4
Logical Reasoning	3.98	1.5	4.05	1.6	4.18	1.5	3.96	1.5	4.45	1.4
Organization	4.10	1.6	4.08	1.7	4.16	1.6	4.00	1.5	4.33	1.4
Physical Appearance	5.08	1.3	5.03	1.4	4.89	1.3	5.01	1.3	5.11	1.2
Poise	4.25	1.6	4.22	1.6	4.26	1.4	4.11	1.4	4.39	1.3
Preparation	4.49	1.6	4.38	1.6	4.49	1.5	4.34	1.6	4.66	1.4
Vividness	3.72	1.5	3.77	1.6	3.86	1.4	3.73	1.4	3.94	1.4
Vocal Inflection	3.76	1.5	3.77	1.5	3.91	1.4	3.72	1.4	3.91	1.3
Word Choice	4.01	1.4	4.03	1.4	4.16	1.3	3.95	1.4	4.22	1.4

TABLE 4.17-4
MEANS AND STANDARD DEVIATIONS FOR POSTTEST2 CONDITION
Per Grade Level

Criteria	A		B		C		D		F	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	4.00	1.4	4.02	1.4	4.06	1.3	4.20	1.1	4.20	0.9
Attitude	4.41	1.4	4.44	1.3	4.34	1.2	4.37	1.2	4.30	0.9
Bodily Movement	3.61	1.4	3.75	1.4	3.79	1.4	4.02	1.3	4.00	1.1
Diction	3.98	1.4	4.09	1.4	4.06	1.3	4.11	1.3	4.30	0.9
Enthusiasm	3.96	1.4	4.14	1.5	4.03	1.4	4.07	1.2	4.10	1.1
Evidence	4.18	1.5	4.39	1.6	4.37	1.4	4.33	1.3	4.83	1.1
Eye Contact	4.66	1.4	4.65	1.5	4.55	1.4	4.41	1.3	4.67	1.0
Facial Expression	3.94	1.3	3.89	1.4	3.81	1.3	3.85	1.1	4.03	0.8
Fluency	3.83	1.5	3.88	1.5	3.90	1.4	3.91	1.3	3.93	1.2
Imagination	3.75	1.4	3.85	1.5	3.81	1.4	3.86	1.1	3.93	1.0
Interest	4.09	1.6	4.21	1.6	4.18	1.4	4.05	1.4	4.13	1.0
Logical Reasoning	4.00	1.5	4.16	1.5	4.21	1.4	4.14	1.3	4.20	1.1
Organization	4.20	1.6	4.30	1.6	4.26	1.5	4.19	1.4	4.23	1.0
Physical Appearance	4.79	1.2	4.86	1.3	4.85	1.2	4.86	1.3	4.87	1.1
Poise	4.19	1.4	4.17	1.4	4.16	1.3	4.07	1.3	4.43	1.1
Preparation	4.44	1.5	4.54	1.5	4.49	1.4	4.33	1.4	4.40	1.0
Vividness	3.81	1.6	3.86	1.5	3.89	1.4	3.89	1.3	3.97	1.0
Vocal Inflection	3.76	1.5	3.92	1.5	3.86	1.4	3.87	1.3	4.23	1.2
Word Choice	3.79	1.4	3.96	1.4	4.01	1.3	4.11	1.3	4.07	1.0

TABLE 4.17-5
MEANS AND STANDARD DEVIATIONS FOR ADVANCED CONDITION
Per Grade Level

Criteria	A		B		C		D		F	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	3.47	1.4	3.54	1.3	3.60	1.3	3.78	1.2		
Attitude	4.10	1.4	4.04	1.4	4.05	1.3	4.13	1.3		
Bodily Movement	3.37	1.4	3.40	1.4	3.51	1.4	3.67	1.2		
Diction	3.74	1.4	3.78	1.4	3.82	1.4	4.07	1.4		
Enthusiasm	3.61	1.5	3.53	1.5	3.69	1.4	3.73	1.4		
Evidence	3.76	1.6	3.85	1.6	3.89	1.5	4.04	1.5		
Eye Contact	4.11	1.5	4.23	1.5	4.30	1.5	4.60	1.5		
Facial Expression	3.45	1.4	3.42	1.4	3.57	1.3	3.87	1.1		
Fluency	3.39	1.4	3.46	1.5	3.53	1.5	3.91	1.2		
Imagination	3.27	1.5	3.34	1.4	3.43	1.4	3.78	1.4		
Interest	3.70	1.6	3.73	1.6	3.88	1.6	4.07	1.6		
Logical Reasoning	3.34	1.6	3.51	1.5	3.59	1.4	3.67	1.3		
Organization	3.64	1.7	3.78	1.5	3.79	1.6	4.11	1.4		
Physical Appearance	4.69	1.4	4.79	1.3	4.76	1.4	4.80	1.4		
Poise	3.76	1.5	3.93	1.4	3.94	1.4	4.09	1.1		
Preparation	4.07	1.6	4.19	1.4	4.17	1.5	4.60	1.2		
Vividness	3.36	1.5	3.38	1.5	3.51	1.4	3.60	1.3		
Vocal Inflection	3.34	1.5	3.36	1.5	3.52	1.5	3.62	1.5		
Word Choice	3.38	1.5	3.48	1.4	3.63	1.4	3.69	1.2		

TABLE 4.18-1
PRETEST FACTOR ANALYSIS FOR A GRADE EVALUATORS
4 Factor Solution - 591 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5631				
Attitude	.5381				
Bodily Movement		-.5476			
Diction			.8047		
Enthusiasm	.7272				
Evidence				.7466	
Eye Contact		-.6586			
Facial Expression	.6456		.5015		
Fluency					
Imagination	.6189				
Interest	.6418				
Logical Reasoning				.8016	
Organization				.7819	
Physical Appearance		-.7764			
Poise		-.7205		.5685	
Preparation					
Vividness	.6321				
Vocal Inflection	.6900				
Word Choice			.6535		
Variance	24	18	12	22	76
Eigenvalues	11.9	1.1	.8	.7	

TABLE 4.18-2
PRETEST FACTOR ANALYSIS FOR B GRADE EVALUATORS
3 Factor Solution - 1773 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect	.6295			
Attitude	.5779			
Bodily Movement	.5559			
Diction	.6284			
Enthusiasm	.7633			
Evidence		-.7914		
Eye Contact		-.4901		
Facial Expression	.7569			
Fluency	.7009			
Imagination	.7037			
Interest	.6311			
Logical Reasoning		-.8219		
Organization		-.8352		
Physical Appearance			.9069	
Poise			.5357	
Preparation		-.7417		
Vividness	.7030			
Vocal Inflection	.8061			
Word Choice	.5825			
Variance	34	27	10	71
Eigenvalues	11.6	1.0	.9	

TABLE 4.18-3
PRETEST FACTOR ANALYSIS FOR C GRADE EVALUATORS
3 Factor Solution - 2409 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect	.6019			
Attitude	.6317			
Bodily Movement	.5284			
Diction			.4384	
Enthusiasm	.8295			
Evidence		.7663		
Eye Contact			.5817	
Facial Expression	.7509			
Fluency	.5701			
Imagination	.6386			
Interest	.7076			
Logical Reasoning		.8252		
Organization		.8021		
Physical Appearance			.8228	
Poise			.6770	
Preparation		.6504		
Vividness	.6899			
Word Choice		.5763		
Variance	30	24	16	70
Eigenvalues	11.4	1.0	.9	

TABLE 4.18-4
PRETEST FACTOR ANALYSIS FOR D GRADE EVALUATORS
3 Factor Solution - 261 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect		.6496		
Attitude	.6480			
Bodily Movement			.5204	
Diction	.5488			
Enthusiasm	.7789			
Evidence		.7815		
Eye Contact			.5526	
Facial Expression	.6761		.5463	
Fluency				
Imagination	.6310			
Interest	.6579			
Logical Reasoning		.8539		
Organization		.7578		
Physical Appearance			.7533	
Poise			.6714	
Preparation		.6905		
Vividness		.6103		
Vocal Inflection	.5887			
Word Choice		.4949		
Variance	24	25	19	68
Eigenvalues	10.7	1.3	.9	

TABLE 4.18-5
PRETEST FACTOR ANALYSIS FOR F GRADE EVALUATORS
3 Factor Solution - 102 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect		-.6972		
Attitude		-.4939		
Bodily Movement	.5521			
Diction	.7076			
Enthusiasm	.6046			
Evidence		-.7394		
Eye Contact			.7650	
Facial Expression			.6217	
Fluency	.6430			
Imagination	.6502			
Interest	.5146			
Logical Reasoning		-.8242		
Organization		-.8652		
Physical Appearance			.4671	
Poise	.5243			
Preparation		-.7327		
Vividness	.6872			
Vocal Inflection	.7861			
Word Choice	.5979			
Variance	26	25	16	67
Eigenvalues	10.1	1.7	1.0	

TABLE 4.19-1
POSTTEST 1 FACTOR ANALYSIS FOR A GRADE EVALUATORS
4 Factor Solution - 618 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.6035				
Attitude	.7479				
Bodily Movement			.5380		
Diction			.7717		
Enthusiasm	.8060				
Evidence		.7659			
Eye Contact				-.4004	
Facial Expression	.6339				
Fluency			.7062		
Imagination	.6693				
Interest	.7481				
Logical Reasoning		.8342			
Organization		.8248			
Physical Appearance				-.8751	
Poise			.5847		
Preparation		.6485			
Vividness	.6553				
Vocal Inflection			.5895		
Word Choice			.6461		
Variance	25	22	20	9	76
Eigenvalues	11.8	1.1	.9	.7	

TABLE 4.19-2
 POSTTEST 1 FACTOR ANALYSIS FOR B GRADE EVALUATORS
 4 Factor Solution - 1503 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5877				
Attitude	.7071				
Bodily Movement	.4819			.7731	
Diction					
Enthusiasm	.8166				
Evidence		.7753			
Eye Contact			.5472		
Facial Expression	.6597				
Fluency				.6042	
Imagination	.6012				
Interest	.7260				
Logical Reasoning		.8096			
Organization		.7838			
Physical Appearance			.8407		
Poise			.5992		
Preparation		.6164			
Vividness	.6242				
Vocal Inflection	.5843				
Word Choice				.7110	
Variance	26	21	12	16	75
Eigenvalues	11.8	1.0	.9	.8	

TABLE 4.19-3
 POSTTEST 1 FACTOR ANALYSIS FOR C GRADE EVALUATORS
 3 Factor Solution - 1857 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect	.6256			
Attitude	.7097			
Bodily Movement	.5540			
Diction			.5056	
Enthusiasm	.8308			
Evidence		.7886		
Eye Contact	.5363			
Facial Expression	.7580			
Fluency	.5846			
Imagination	.6999			
Interest	.7543			
Logical Reasoning		.8307		
Organization		.8232		
Physical Appearance			.8607	
Poise			.6050	
Preparation		.6526		
Vividness	.6883			
Vocal Inflection	.6687			
Word Choice		.5577		
Variance	33	25	13	71
Eigenvalues	11.7	1.0	.8	

TABLE 4.19-4
 POSTTEST 1 FACTOR ANALYSIS FOR D GRADE EVALUATORS
 3 Factor Solution - 282 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect	.6617			
Attitude	.7062			
Bodily Movement	.5459			
Diction	.6868			
Enthusiasm	.8149			
Evidence		.8018		
Eye Contact	.5379			
Facial Expression	.6814			
Fluency	.6896			
Imagination	.6623			
Interest	.7230			
Logical Reasoning		.8248		
Organization		.8233		
Physical Appearance			.8810	
Poise			.5415	
Preparation		.7017		
Vividness	.7198			
Vocal Inflection	.7728			
Word Choice	.6941			
Variance	38	24	12	.74
Eigenvalues	12.0	1.0	.8	

TABLE 4.19-5
 POSTTEST 1 FACTOR ANALYSIS FOR F GRADE EVALUATORS
 3 Factor Solution - 96 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect			.5824	
Attitude	.6057		.6307	
Bodily Movement			.5814	
Diction				
Enthusiasm	.6243			
Evidence	.7161		.8395	
Eye Contact				
Facial Expression	.6126			
Fluency	.5395			
Imagination	.8291			
Interest	.8545			
Logical Reasoning	.6718			
Organization			.6055	
Physical Appearance		.8549		
Poise		.5887	.6342	
Preparation				
Vividness	.7343			
Vocal Inflection			.6237	
Word Choice	.6855			
Variance	34	12	25	71
Eigenvalues	11.6	1.1	.9	

TABLE 4.20-1
POSTTEST 2 FACTOR ANALYSIS FOR A GRADE EVALUATORS
4 Factor Solution - 321 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.6066				
Attitude	.6902				
Bodily Movement			-.4977	.7335	
Diction					
Enthusiasm	.8767				
Evidence		.7852			
Eye Contact	.5124				
Facial Expression	.7957			.5454	
Fluency					
Imagination	.6695				
Interest	.7145				
Logical Reasoning		.8074			
Organization		.7920			
Physical Appearance			-.8861		
Poise			-.4286		
Preparation		.6493			
Vividness	.7263				
Vocal Inflection	.6983				
Word Choice				.6910	
Variance	30	24	10	15	79
Eigenvalues	12.1	1.2	1.0	.6	

TABLE 4.20-2
POSTTEST 2 FACTOR ANALYSIS FOR B GRADE EVALUATORS
4 Factor Solution - 1077 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5974				
Attitude			-.6681	.4777	
Bodily Movement				.7928	
Diction					
Enthusiasm			-.7917		
Evidence			-.5616		
Eye Contact	.7791		-.7327		
Facial Expression				.6094	
Fluency			-.6689		
Imagination			-.7349		
Interest					
Logical Reasoning	.8169				
Organization	.7897				
Physical Appearance		.9015			
Poise		.4370			
Preparation	.6285				
Vividness			-.6520		
Vocal Inflection			-.6033		
Word Choice				.7014	
Variance	23	8	27	18	76
Eigenvalues	11.9	1.0	.9	.7	

TABLE 4.20-3
POSTTEST 2 FACTOR ANALYSIS FOR C GRADE EVALUATORS
3 Factor Solution - 1284 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect	.6399			
Attitude		-.7104		
Bodily Movement		-.4887		
Diction	.4853			
Enthusiasm		-.8591		
Evidence	.7508			
Eye Contact	.5163			
Facial Expression		-.7284		
Fluency	.5726			
Imagination		-.6851		
Interest		-.7370		
Logical Reasoning	.8375			
Organization	.8367			
Physical Appearance			-.8573	
Poise			-.5047	
Preparation	.7528			
Vividness		-.7042		
Vocal Inflection		-.6763		
Word Choice	.6479			
Variance	30	30	11	71
Eigenvalues	11.5	1.1	.9	

TABLE 4.20-4
 POSTTEST 2 FACTOR ANALYSIS FOR D GRADE EVALUATORS
 3 Factor Solution - 123 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect		.6083		
Attitude			-.6394	
Bodily Movement	.6868			
Diction	.7010			
Enthusiasm			-.8382	
Evidence		.6926		
Eye Contact	.4263			
Facial Expression			-.6441	
Fluency	.5815			
Imagination			-.6165	
Interest			-.7868	
Logical Reasoning		.7026		
Organization		.8070		
Physical Appearance	.7548			
Poise	.7586			
Preparation		.7390		
Vividness			-.6504	
Vocal Inflection	.6212			
Word Choice	.5958			
Variance	24	22	23	69
Eigenvalues	10.7	1.2	1.1	

TABLE 4.20-5
 POSTTEST 2 FACTOR ANALYSIS FOR F GRADE EVALUATORS
 3 Factor Solution - 30 Observations

Criteria	Factor			Total
	I	II	III	
Total Effect	.6426		.7697	
Attitude		.6742		
Bodily Movement		.8319		
Diction			.7280	
Enthusiasm			.8222	
Evidence			.6399	
Eye Contact	.6106			
Facial Expression			.6603	
Fluency	.6272		.7240	
Imagination			.6586	
Interest				
Logical Reasoning				
Organization	.8281			
Physical Appearance	.6298			
Poise	.6571			
Preparation	.7210			
Vividness	.5850			
Vocal Inflection	.6816			
Word Choice	.8216			
Variance	29	15	25	69
Eigenvalues	10.2	1.5	1.4	

TABLE 4.21-1
 FACTOR ANALYSIS FOR A GRADE EVALUATORS IN ADVANCED COURSES
 4 Factor Solution - 384 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5795				
Attitude	.6416				
Bodily Movement	.5392				
Diction			-.7753		
Enthusiasm	.8423				
Evidence		.7338		.6787	
Eye Contact					
Facial Expression	.7544				
Fluency			-.6690		
Imagination	.5725				
Interest	.7421				
Logical Reasoning		.8131			
Organization		.7763			
Physical Appearance				.7336	
Poise				.5223	
Preparation		.5376			
Vividness	.6556				
Vocal Inflection	.6505				
Word Choice			-.6819		
Variance	27	19	17	11	74
Eigenvalues	11.3	1.1	.9	.8	

TABLE 4.21-2
 FACTOR ANALYSIS FOR B GRADE EVALUATORS IN ADVANCED COURSES
 4 Factor Solution - 744 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.6180				
Attitude	.6430				
Bodily Movement	.5089				
Diction			.6479		
Enthusiasm	.8242				
Evidence		.7363			
Eye Contact				.7597	
Facial Expression	.7327				
Fluency	.5853				
Imagination	.7465				
Interest	.7462				
Logical Reasoning		.8503			
Organization		.8214			
Physical Appearance			.7801		
Poise			.5975		
Preparation		.5712			
Vividness	.7591				
Vocal Inflection	.7356				
Word Choice		.4800			
Variance	31	20	13	7	71
Eigenvalues	10.0	1.3	1.1	1.0	

TABLE 4.21-3
 FACTOR ANALYSIS FOR C GRADE EVALUATORS IN ADVANCED COURSES
 4 Factor Solution - 504 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect	.5828				
Attitude	.6170				
Bodily Movement	.4318		.8229		
Diction					
Enthusiasm	.8318				
Evidence		.7100			
Eye Contact				.7721	
Facial Expression	.6163		.5305		
Fluency					
Imagination	.6366				
Interest	.7683				
Logical Reasoning		.8055			
Organization		.8006			
Physical Appearance				.6433	
Poise			.5539		
Preparation		.5990			
Vividness	.6250				
Vocal Inflection	.6411				
Word Choice			.6756		
Variance	24	19	15	11	69
Eigenvalues	10.2	1.1	1.0	.9	

TABLE 4.21-4
 FACTOR ANALYSIS FOR D GRADE EVALUATORS IN ADVANCED COURSES
 4 Factor Solution - 45 Observations

Criteria	Factor				Total
	I	II	III	IV	
Total Effect		.6527		-.7588	
Attitude					
Bodily Movement		.6122			
Diction	.5983			-.7998	
Enthusiasm					
Evidence		.8500	.8473		
Eye Contact					
Facial Expression			.7164	-.5763	
Fluency			.5135		
Imagination				-.6143	
Interest					
Logical Reasoning		.8137			
Organization		.6952			
Physical Appearance					
Poise	.7263				
Preparation	.7686	.7165			
Vividness	.6382				
Vocal Inflection	.6542				
Word Choice	.7622				
Variance	20	22	12	16	70
Eigenvalues	8.7	2.1	1.4	1.1	

TABLE 4.22-1
SCALE ITEM RELIABILITY ACROSS PROFICIENCY LEVELS

Scale Item	Beginning Students				Advanced Students				
	A	B	C	D	F	A	B	C	D
Total Effect	.930	.980	.980	.925	.920	.950	.930	.850	.530
Attitude	.880	.985	.975	.920	.795	.930	.880	.800	.900
Bodily Movement	.785	.950	.960	.825	.675	.920	.850	.730	.670
Diction	.885	.955	.975	.870	.885	.850	.820	.850	.800
Enthusiasm	.930	.980	.980	.890	.675	.740	.900	.800	.950
Evidence	.765	.865	.880	.770	.795	.910	.860	.740	.620
Eye Contact	.945	.965	.975	.900	.860	.930	.940	.880	.150
Facial Expression	.840	.975	.970	.860	.795	.930	.930	.630	.930
Fluency	.915	.975	.985	.920	.845	.950	.910	.670	.870
Imagination	.790	.965	.970	.795	.800	.900	.810	.730	.860
Interest	.895	.980	.985	.875	.810	.930	.920	.840	.940
Logical Reasoning	.800	.775	.840	.775	.755	.900	.900	.730	.540
Organization	.825	.865	.945	.855	.770	.870	.730	.840	.280
Physical Appearance	.685	.775	.740	.655	.585	.920	.630	.720	.700
Poise	.910	.975	.970	.925	.905	.970	.940	.890	.760
Preparation	.840	.965	.975	.850	.825	.900	.870	.760	.800
Vividness	.925	.980	.975	.900	.810	.940	.940	.720	.820
Vocal Inflection	.875	.975	.975	.875	.880	.930	.930	.840	.940
Word Choice	.785	.895	.885	.875	.550	.910	.740	.810	.690

TABLE 4.24-1
MEANS AND STANDARD DEVIATIONS FOR A GRADES
PER CONDITION

Criteria	Pretest		Posttest 1		Posttest 2		Advanced	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	3.93	1.5	3.86	1.5	4.00	1.4	3.47	1.4
Attitude	4.45	1.4	4.33	1.4	4.41	1.4	4.10	1.4
Bodily Movement	3.69	1.6	3.67	1.5	3.61	1.4	3.37	1.4
Diction	4.16	1.4	4.13	1.4	3.98	1.4	3.74	1.4
Enthusiasm	4.06	1.5	3.89	1.5	3.96	1.4	3.61	1.5
Evidence	4.29	1.6	4.25	1.6	4.18	1.5	3.76	1.6
Eye Contact	4.40	1.8	4.43	1.6	4.66	1.4	4.11	1.5
Facial Expression	3.80	1.5	3.80	1.4	3.94	1.3	3.45	1.4
Fluency	3.71	1.6	3.85	1.5	3.83	1.5	3.39	1.4
Imagination	3.88	1.5	3.83	1.5	3.75	1.4	3.27	1.5
Interest	4.23	1.6	4.11	1.5	4.09	1.6	3.70	1.6
Logical Reasoning	3.99	1.6	3.98	1.5	4.00	1.5	3.34	1.6
Organization	4.01	1.6	4.10	1.6	4.20	1.6	3.64	1.7
Physical Appearance	5.15	1.4	5.08	1.3	4.79	1.2	4.69	1.4
Poise	4.32	1.6	4.25	1.6	4.19	1.4	3.76	1.5
Preparation	4.41	1.7	4.49	1.6	4.44	1.5	4.07	1.6
Vividness	3.85	1.6	3.72	1.5	3.81	1.6	3.36	1.5
Vocal Inflection	3.79	1.6	3.76	1.5	3.76	1.5	3.34	1.5
Word Choice	3.93	1.4	4.01	1.4	3.79	1.4	3.38	1.5

TABLE 4.25-1
MEANS AND STANDARD DEVIATIONS FOR B GRADES
PER CONDITION

Criteria	Pretest		Posttest 1		Posttest 2		Advanced	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	3.98	1.4	3.96	1.5	4.02	1.4	3.54	1.3
Attitude	4.38	1.3	4.41	1.4	4.44	1.3	4.04	1.4
Bodily Movement	3.75	1.5	3.70	1.5	3.75	1.4	3.40	1.4
Diction	3.96	1.4	4.15	1.4	4.09	1.4	3.78	1.4
Enthusiasm	4.05	1.4	4.04	1.5	4.14	1.5	3.53	1.5
Evidence	4.42	1.6	4.25	1.6	4.39	1.6	3.85	1.6
Eye Contact	4.43	1.6	4.41	1.7	4.65	1.5	4.23	1.5
Facial Expression	3.78	1.4	3.81	1.4	3.89	1.4	3.42	1.4
Fluency	3.74	1.5	3.87	1.6	3.88	1.5	3.46	1.5
Imagination	3.77	1.4	3.85	1.4	3.85	1.5	3.34	1.4
Interest	4.25	1.5	4.19	1.6	4.21	1.6	3.73	1.6
Logical Reasoning	4.16	1.5	4.05	1.6	4.16	1.5	3.51	1.5
Organization	4.17	1.7	4.08	1.7	4.30	1.6	3.78	1.5
Physical Appearance	4.76	1.4	5.03	1.4	4.86	1.3	4.79	1.3
Poise	4.03	1.5	4.22	1.6	4.17	1.4	3.93	1.4
Preparation	4.52	1.6	4.38	1.6	4.54	1.5	4.19	1.4
Vividness	3.80	1.5	3.77	1.6	3.86	1.5	3.38	1.5
Vocal Inflection	3.82	1.5	3.77	1.5	3.92	1.5	3.36	1.5
Word Choice	3.94	1.4	4.03	1.4	3.96	1.4	3.48	1.4

TABLE 4.26-1
MEANS AND STANDARD DEVIATIONS FOR C GRADES
PER CONDITION

Criteria	Pretest		Posttest 1		Posttest 2		Advanced	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	3.95	1.4	4.02	1.3	4.06	1.3	3.60	1.3
Attitude	4.39	1.4	4.35	1.2	4.34	1.2	4.05	1.3
Bodily Movement	3.77	1.5	3.79	1.4	3.79	1.4	3.51	1.4
Diction	4.06	1.4	4.16	1.3	4.06	1.3	3.82	1.4
Enthusiasm	4.05	1.5	4.03	1.3	4.03	1.4	3.69	1.4
Evidence	4.35	1.6	4.38	1.5	4.37	1.4	3.89	1.5
Eye Contact	4.45	1.6	4.50	1.5	4.55	1.4	4.30	1.5
Facial Expression	3.81	1.4	3.87	1.3	3.81	1.3	3.57	1.3
Fluency	3.80	1.5	3.93	1.4	3.90	1.4	3.53	1.5
Imagination	3.77	1.5	3.90	1.4	3.81	1.4	3.43	1.4
Interest	4.25	1.6	4.19	1.5	4.18	1.4	3.88	1.6
Logical Reasoning	4.00	1.6	4.18	1.5	4.21	1.4	3.59	1.4
Organization	4.11	1.7	4.16	1.6	4.26	1.5	3.79	1.6
Physical Appearance	4.94	1.4	4.89	1.3	4.85	1.2	4.76	1.4
Poise	4.20	1.5	4.26	1.4	4.16	1.3	3.94	1.4
Preparation	4.48	1.6	4.49	1.5	4.49	1.4	4.17	1.5
Vividness	3.78	1.5	3.86	1.4	3.89	1.4	3.51	1.4
Vocal Inflection	3.78	1.5	3.91	1.4	3.86	1.4	3.52	1.5
Word Choice	3.96	1.4	4.16	1.3	4.01	1.3	3.63	1.4

TABLE 4.27-1
MEANS AND STANDARD DEVIATIONS FOR D GRADES
PER CONDITION

Criteria	Pretest		Posttest 1		Posttest 2		Advanced	
	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd	$\bar{x}$	sd
Total Effect	4.08	1.4	3.90	1.4	4.20	1.1	3.78	1.2
Attitude	4.49	1.3	4.34	1.3	4.37	1.2	4.13	1.3
Bodily Movement	3.81	1.4	3.62	1.5	4.02	1.3	3.67	1.2
Diction	4.09	1.4	4.12	1.4	4.11	1.3	4.07	1.4
Enthusiasm	4.14	1.4	3.91	1.4	4.07	1.2	3.73	1.4
Evidence	4.56	1.4	4.29	1.5	4.33	1.3	4.04	1.5
Eye Contact	4.69	1.5	4.35	1.6	4.41	1.3	4.60	1.5
Facial Expression	4.03	1.4	3.77	1.3	3.85	1.1	3.87	1.1
Fluency	3.89	1.4	3.87	1.5	3.91	1.3	3.91	1.2
Imagination	3.98	1.3	3.81	1.4	3.86	1.1	3.78	1.4
Interest	4.31	1.5	4.14	1.4	4.05	1.4	4.07	1.6
Logical Reasoning	4.30	1.4	3.96	1.5	4.14	1.3	3.67	1.3
Organization	4.36	1.5	4.00	1.5	4.19	1.4	4.11	1.4
Physical Appearance	4.92	1.3	5.01	1.3	4.86	1.3	4.80	1.4
Poise	4.36	1.5	4.11	1.4	4.07	1.3	4.09	1.1
Preparation	4.64	1.5	4.34	1.6	4.33	1.4	4.60	1.2
Vividness	4.03	1.3	3.73	1.4	3.89	1.3	3.60	1.3
Vocal Inflection	4.56	1.5	3.72	1.4	3.87	1.3	3.62	1.5
Word Choice	4.08	1.3	3.95	1.4	4.11	1.3	3.69	1.2

TABLE 4.28-1
MEANS AND STANDARD DEVIATIONS FOR F GRADES
PER CONDITION

Criteria	- Pretest		Posttest 1		Posttest 2		Advanced	
	x	sd	x	sd	x	sd	x	sd
Total Effect	3.98	1.3	4.29	1.4	4.20	0.9		
Attitude	4.34	1.2	4.47	1.3	4.30	0.9		
Bodily Movement	4.09	1.5	3.85	1.3	4.00	1.1		
Diction	4.01	1.3	4.07	1.2	4.30	0.9		
Enthusiasm	3.97	1.5	4.07	1.3	4.10	1.1		
Evidence	4.55	1.4	4.57	1.4	4.83	1.1		
Eye Contact	4.30	1.5	4.52	1.3	4.67	1.0		
Facial Expression	3.81	1.2	4.03	1.2	4.03	0.8		
Fluency	3.89	1.3	4.03	1.4	3.93	1.2		
Imagination	3.90	1.3	4.12	1.3	3.93	1.0		
Interest	4.40	1.4	4.24	1.4	4.13	1.0		
Logical Reasoning	4.24	1.3	4.45	1.4	4.20	1.1		
Organization	4.20	1.7	4.33	1.4	4.23	1.0		
Physical Appearance	5.03	1.1	5.11	1.2	4.87	1.1		
Poise	4.21	1.4	4.39	1.3	4.43	1.1		
Preparation	4.54	1.6	4.66	1.4	4.40	1.0		
Vividness	3.93	1.3	3.94	1.4	3.97	1.0		
Vocal Inflection	3.94	1.4	3.91	1.3	4.23	1.2		
Word Choice	4.30	1.3	4.22	1.4	4.07	1.0		

TABLE 4.29-1
RELIABILITY ESTIMATES FOR GRADE LEVELS WITHIN RESEARCH CONDITIONS

Criteria	Pretest						Posttest 1						Posttest 2						Advanced					
	A	B	C	D	F	A	B	C	D	F	A	B	C	D	F	A	B	C	D	F				
Total Effect	.910	.980	.990	.900	.900	.950	.980	.970	.950	.940	.940	.980	.970	.970	.690	.950	.930	.850	.530	--				
Attitude	.810	.990	.990	.910	.740	.950	.980	.960	.930	.850	.940	.960	.950	.730	.920	.930	.880	.800	.900	--				
Bodily Movement	.720	.960	.970	.770	.510	.850	.940	.950	.880	.840	.830	.960	.890	.870	.440	.920	.850	.730	.670	--				
Diction	.840	.960	.980	.820	.820	.930	.950	.970	.920	.950	.920	.960	.730	.910	.800	.850	.820	.850	.800	--				
Enthusiasm	.910	.980	.980	.860	.530	.950	.980	.980	.920	.820	.880	.960	.970	.420	.590	.740	.900	.800	.950	--				
Evidence	.700	.920	.960	.640	.780	.830	.810	.800	.900	.810	.840	.930	.810	.930	.370	.910	.860	.740	.620	--				
Eye Contact	.950	.970	.980	.850	.780	.940	.960	.970	.950	.940	.900	.970	.950	.930	.110	.930	.940	.880	.750	--				
Facial Expression	.750	.970	.980	.850	.680	.930	.980	.960	.870	.910	.940	.960	.940	.880	.720	.930	.930	.630	.930	--				
Fluency	.920	.980	.990	.910	.810	.910	.970	.980	.930	.880	.930	.980	.950	.940	.610	.950	.910	.670	.870	--				
Imagination	.650	.960	.980	.700	.830	.930	.970	.960	.890	.770	.870	.950	.930	.880	.380	.900	.810	.730	.860	--				
Interest	.850	.980	.990	.800	.900	.940	.980	.980	.950	.720	.920	.970	.820	.910	.630	.930	.920	.840	.940	--				
Logical Reasoning	.900	.770	.890	.620	.840	.700	.780	.790	.930	.670	.710	.920	.760	.930	.870	.900	.900	.730	.540	--				
Organization	.790	.950	.970	.800	.710	.860	.780	.920	.910	.830	.810	.920	.820	.960	.670	.870	.730	.840	.280	--				
Phy. Appearance	.730	.770	.790	.620	.390	.640	.780	.690	.690	.780	.760	.740	.700	.790	.760	.920	.630	.720	.700	--				
Poise	.860	.980	.980	.910	.900	.960	.970	.960	.940	.910	.940	.980	.930	.890	.410	.970	.940	.890	.760	--				
Preparation	.760	.970	.980	.760	.740	.920	.960	.970	.940	.910	.910	.980	.960	.970	.760	.900	.870	.760	.800	--				
Vividness	.920	.980	.990	.870	.850	.930	.980	.960	.930	.770	.940	.960	.740	.940	.800	.940	.940	.720	.820	--				
Vocal Inflection	.910	.980	.980	.830	.810	.840	.970	.970	.920	.950	.910	.970	.920	.940	.760	.930	.930	.840	.940	--				
Word Choice	.790	.910	.910	.860	.470	.780	.880	.860	.890	.630	.750	.930	.900	.970	.910	.910	.740	.810	.690	--				

V

CONCLUSIONS

5.1 Purpose of the Section.

The purpose of this portion of the report is to interpret the results cited in the previous section in light of the stated objectives of the research (see Section III: Article 3.5).

5.2 An Interpretation of Results of the Research.

The study involved approximately 4800 students (this number excludes the 800 plus students who participated in the project pilot study) enrolled in 27 different speech courses involving public speaking at eight institutions of higher education. The courses in which data were collected were divided into two classifications: basic or advanced. This classification rested on the requirements that (1) the basic courses concentrated on public speaking and served as prerequisite to advanced courses also involving practice in public address, and (2) the advanced courses required a prerequisite basic course in public speaking and involved training in public address beyond that represented by their prerequisite. The job of applying these requirements to the courses in which data were collected fell to the institutional contacts who aided the project.

Questionnaires were administered to all students who participated in the study in order to determine their previous training in public speaking. In general, students enrolled in those classified

as basic courses were freshman or sophomores with little to no training in public speaking either at the high school or college level. In contrast, students enrolled in the advanced courses tended to be juniors or seniors with at least a basic course in public speaking at the college level (usually taken at the same institution in which they were taking the advanced course).

Data were collected on students representing three training levels. Training level one data came from students prior to their completion of a basic public speaking course in college. Training level two data came from students who had just completed a basic course. Training level three represented data taken from students who had just completed an advanced course in public speaking. Within each training level data were subdivided according to the final grade each student received in his respective course. These grades (A, B, C, D, and F) were viewed as indicative of proficiency levels in public speaking as viewed by the instructors using the normal evaluative techniques of the particular courses. It is recognized that the evaluative techniques used in a public speaking course may not all be based on student performances as public speakers, but it was assumed that all the techniques used would have reference to the student's perception of what constitutes an effective use of oral communication, whether by himself or others.

The prime objective of the research was to investigate the effect of training and proficiency in public speaking on the dimensionality of speech evaluation. Dimensionality was defined operationally through factor structure, that is, the number of dimensions evolved via factor analysis for a particular set of data, the content of those dimensions as measured by the strength of association between relevant criteria and the dimensions (factor loadings), and the strength of the dimensions in their ability to account for the total variance of the criteria within a particular context involving student evaluation of public speaking. The gathering of data required the students at the three training levels to evaluate three films of students giving public speeches in a classroom situation. The speeches viewed in each set represented three nominal quality classifications termed low, middle, and high.* There were four different film sets used in the project. Each set was evaluated by students representing the various proficiency levels at each training level. Finally, each film set was viewed at two or more of the participating institutions.

Prior to the investigation of the main effects of training and proficiency on the dimensionality of speech evaluation, an attempt was made to establish that public speaking was viewed as multi-dimensional by the students who were about to do the evaluating of

*The film order was varied with each showing at each of the participating institutions.

the filmed speeches. In order to support such a conclusion the students prior to viewing the filmed speeches were asked to evaluate themselves as public speakers. These self-perceptions were in the form of ratings on the 19 evaluative criteria that would eventually be used to evaluate the filmed speeches. The results of the factor analyses of the self-perception ratings indicated a multi-dimensional view of public speaking on the part of the students regardless of training level. The results also support the conclusion that training in public speaking, particularly that represented by a basic course, does affect a student's self-perception as a public speaker. The student tends to rate himself higher on the evaluative criteria used in the study. Furthermore, the student at the conclusion of a basic course in public speaking can evaluate himself in a fashion similar to that in which he evaluates others as public speakers. These results appear to extend beyond those evaluative criteria normally associated with self-confidence. There was no consistent indication of a significant effect of the self-perception data attributable to advanced training in public speaking.

The results of the factor analyses of the self-perception ratings, then, do support the conclusion that students perceive the evaluation of public speaking to be multi-dimensional and that they are able to reflect this impression in their application of the evaluative criteria (rating scale items) developed for the project to themselves.

The researcher was also interested in establishing the relationship between dimensionality and the quality of speaking being evaluated. In order to determine this relationship separate factor analyses were made of the student evaluations of the low, middle, and high speeches. The results support the conclusion that the rating scale remained multi-dimensional in all the research conditions across the three nominal quality classifications of speaking represented in each film set. This result, coupled with that represented by the self-perception scales, points to the existence of dimensions of speech evaluation recognizable by students evaluating themselves or others.

The most consistent finding of the research was the evolution of four factors of speech evaluation. To some extent this finding might well be a function of the particular set of scale items evolved for the project. Another rating instrument with different or additional items might well evolve a greater number of factors applied by students with the same degree of consistency found in this study. It is obvious, however, that there is more to the evaluation of public speaking in the eyes of students than mere comments on "delivery" and "content". Students at all training levels seem ready for more sophisticated critiques of public speaking than they are normally given in the classroom. This finding should be welcomed by the speech teacher who has lamented the apparent superficiality of his

critiques in the eyes of students.

In investigating speech students at the three training levels in the research it was established that at the conclusion of a basic public speaking course four dimensions of speech evaluation were identified in the process of distinguishing between the qualities of public address represented in each film set. Three of the four evolved factors paralleled the dimensionality of evaluation used prior to the training. What emerged at training level two could be labelled a "language facility" dimension of evaluation. This factor was represented by the scale items diction, fluency and word choice. There was some evidence to suggest that students perceived such a factor prior to the basic course, but they were unable to consistently identify it as a dimension distinguishing between qualities of public address until after a basic college speech course. It is important to note that the emergence of the language facility factor did not destroy the dimensionality that the students brought to the speech course, but rather can be viewed as an additive effect of training in public speaking at the beginning level. The evidence of an additive effect represented by training level three is not pronounced. While it is possible to evolve a five factor solution for the speech evaluations of students at the conclusion of an advanced course, it cannot be done without interfering with the factor content of the dimensions represented at training level two. The most plausible explanation of this result is that the advanced

courses at the various institutions providing data for the project include a wider range of content than their basic courses and that this range confounded the factor structure when the attempt was being made to establish an additive effect of that level of speech training. This result points to the need for additional research into the differential effects of particular groupings of advanced courses with similar content on the dimensionality of speech evaluation.

An investigation of the effects of proficiency in public speaking on the dimensionality of speech evaluation yields an interesting conclusion. It would appear that for the A students training in public speaking has little to no effect on how they evaluate the speaking of others. The students who appear to profit most in terms of a basic speech course are those who receive B grades. As a result of the basic course the B students begin to view speech evaluation in a manner similar to the A students. The C, D, and F students reflect no significant degree of change from pretest to posttest on the dimensionality of speech evaluation. In general, it is the ability of the AB students to use the language facility dimension as a fourth factor for speech evaluation that distinguishes them from the CDF students at the end of a basic speech course. The C student in the advanced courses does support the establishment of the language facility factor in a manner similar to the A and B students at the end of a basic course in public speaking. It is hypothesized that this result does not

support an effect due to training in the advanced course, but can be explained by the hypothesis that the enrollments in advanced courses are comprised to a large extent of students who did well in the basic course. It should be remembered that the students in the advanced courses tend to rate themselves as B public speakers.

The results of the study do not tend to support a conclusion that training and proficiency offer a type of differential effect on the dimensionality of speech evaluation.

To many the results of this study will be disappointing. Certainly very little can be claimed for the effects of training and proficiency in public speaking in terms of the dimensionality of speech evaluation. However, even this finding can provide some saving grace for the field if it will stimulate a more concerted effort on the part of its educators to use their theory and training to develop in students a firmer and broader basis for the evaluation of public speaking than they appear to have at the present time.

VI

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APPENDICES

APPENDIX A

COURSE DESCRIPTIONS OF PARTICIPATING UNIVERSITIES - HEW PROJECT

MICHIGAN STATE UNIVERSITY

- Speech 101 - Public Speaking. Principles and practice in effective speaking in both formal and informal situations.
- Speech 116 - Group Discussion. Principles and practice in effective leadership and participation in group discussion and conference.
- Speech 305 - Persuasion. Study of and experience in the process of influencing human behavior through persuasive oral communication.
- Speech 309 - Argumentation. Types of argumentation employed in our society, including forms of debate. Field trips to the state legislature and courts in Lansing and vicinity.
- Speech 401 - Speech for the Classroom Teacher. Basic requirements for the teacher's oral communication, and consideration of speech activities utilized in classroom instruction.

IOWA STATE UNIVERSITY

- Speech 30 - Basic Elements of Public Speaking. Basic elements of public speaking, including content and organization; practice in the preparation and delivery of speeches.
- Speech 311 - Fundamentals of Speech. Fundamental principles of public speaking, audience analysis, interest and attention, selection and organization of speech material, delivery. Practice in preparation and delivery of extemporaneous speeches.
- Speech 312 - Business and Professional Speaking. Methods of application of fundamental principles of public speaking to composition and delivery of common types of business and professional speaking; practice in preparation and delivery of various types of speeches.
- Speech 334 - Persuasion. Principles and methods of persuasive speaking; discovery and use of evidence; proof; refutation; appeals; organization. Practice in preparation and delivery of persuasive speeches upon topics of current interest.

Speech 336 - Group Discussion. Practice and procedures of problem-solving groups; communication theories related to group procedure; group leadership and participation.

UNIVERSITY OF WISCONSIN

Speech 101 - Fundamentals of Speech. Consideration of the process of oral communication and the fundamentals of speech, with application of these fundamentals in selected speaking, discussion, and oral interpretation projects.

Speech 103 - Public Speaking. Study and application of the principles of public speaking in informative, persuasive, and special occasional speech situations.

Speech 105 - Public Speaking. Development of fundamentals in the preparation, delivery, and evaluation of the common forms of public address.

Speech 262 - Argumentation and Debate. The theory of argument with practice in the preparation and delivery of various types of argumentative speeches and debates.

Speech 464 - Theory and Practice of Persuasion. Consideration of principles, processes, and methods of persuasion with practice in the preparation and delivery of various types of persuasive speeches; includes critical and creative problems in both oral and written forms.

OHIO STATE UNIVERSITY

Speech 401 - Effective Speaking. The principles of effective speaking. Preparation and presentation of informative and persuasive speeches. The speech processes with emphasis on speech as a thinking process.

UNIVERSITY OF CONNECTICUT

Speech 111 - Fundamentals of Speech. Theory and practice in the principles of communication; identification of purpose, organization, supporting materials, audience analysis, style and delivery.

Speech 112 - Public Speaking. A thorough study and practice of the most commonly used types of speech with emphasis on audience analysis and persuasion.

UNIVERSITY OF MINNESOTA

Speech 5 - Fundamentals of Speech. Development of basic skills in meeting a variety of speech situations: extemporaneous speaking, oral reading, discussion. Development of basic understanding of speech processes and forms.

Speech 51 - Advanced Public Speaking. Preparation and delivery of speeches on current public issues.

UNIVERSITY OF ILLINOIS

Speech 101 - Principles of Effective Speaking. Preparation and presentation of short informative and persuasive speeches with emphasis on the selection and organization of material, methods of securing interest and attention, and the elements of delivery.

Speech 121 - Advanced Public Speaking. The Logical Bases of Discourse. Study of theory of argument, e.g., evidence, reasoning, and construction of briefs; practice in formal and informal forms of debate and public discourse on current public questions.

UNIVERSITY OF MICHIGAN

Speech 210 - Types of Public Speaking. Consideration of special problems in exposition, argument, and persuasion. Preparation and delivery of speeches representative of solutions to problems in invention, style, and arrangement.

Speech 211 - Parliamentary Procedure and Group Leadership.I. Consideration of the rules of procedure for both large and small groups, and the problems of presiding at meetings.

Speech 410 - Principles of Discussion and Conference. A study of the fundamentals of effective leadership and member participation in small group meetings. Training experiences in varied types of discussions and conferences.

Speech 412 - Elements of Persuasion. A study of audiences, motivation, principles of attention and suggestion, use of emotional proofs, and bases of belief and action applicable to to persuasive speaking.

Speech 413 - Advanced Public Speaking. Principles of individual and group behavior relevant to efforts at influencing such behavior through speech. Composition and delivery of speeches aimed at accommodation of audience attitudes toward the speaker's proposition.

INSTRUCTOR - SECTION COUNTS: PARTICIPATING SCHOOLS

MSU

Instructors = 30

Sections (Winter Term) = 53

Sections (Spring Term) = 41

Sections (Fall Term) = 45

IOWA STATE

Instructors = 15

Sections = 32

WISCONSIN

Instructors = 5

Sections = 14

OHIO STATE

Instructors = 6

Sections = 8

CONNECTICUT

Instructors = 6

Sections = 13

MINNESOTA

Instructors = 20

Sections = 28

ILLINOIS

Instructors = 12

Sections = 14

MICHIGAN

Instructors = 6

Sections = 7

APPENDIX B

Outlines of HEW PROJECT SPEECH FILMS

Speech Title or Subject: Advertising

Speaker No: 4

Quality Rating: Low

Speech Outline:

Introduction

1. How many of you own a telephone?
2. How many of you own a T.V.?
3. How many would be in the market for a new portable T.V. for say under \$50?
4. Tell of my experience with Huntington Music Adv.
5. Show Hanley Dawson Adv.
6. What is the retailer trying to do when he advertises?

Things to do in answering an ad.

- I. Keep a mental note of places you like to do business with.
- II. Check with those who know if you don't.
- III. Use that telephone.
 1. Verify salesman's name.
 2. Verify product specifications.
 3. Verify the price.
- IV. You can beat the retailer, (ie, buy the traffic builder.)

Research Used:

My questionnaire showed that the class had much more faith in the retailer than I had expected. Up'til now I had shown no actual bogus ads and feel that this is probably the most opportune time to do such and awake a few people. The appreciation for advertising is there according to question

responses, but some have a lot to learn about what advertising does. I don't want them to learn the hard way because this spoils a person even for the legitimate advertiser.

Speech Title or Subject: The Plank Road Farm

Speaker No: 6

Quality Rating: Low

Speech Outline:

I. More Leisure

- A. Advantage
- B. Disadvantage
- C. Leisure as a problem

II. Michigan Tourist Attraction

- A. Interesting but not exciting
- B. Not adequate

III. Plank Road Farm

- A. What it offers that is different

IV. Response Desired

- A. Recognition of problem of leisure
- B. Tourist attractions are not adequate
- C. Plank Road Farm is more worthwhile

V. Means of measuring response

- A. Show of hands when questioned

VI. Use of questionnaire

- A. Determined degree of activeness
- B. Revealed preference to authentic attractions
- C. Failed to prove prejudice towards farmers, although I feel it does exist.

Speech Title or Subject: The Time Study Man

Speaker No: 8

Quality Rating: Low

Speech Outline:

1. Introduction - Explanation
2. Integrate into questionnaire statistics
3. Government control statistics on media
4. Question each of the control items
5. Psychologists
6. Control over carmakers
7. Kathy Miller's questions
8. Give my answer
9. Try to elicit response

Speech Title or Subject: Corruption in Government

Speaker No: 13

Quality Rating: Low

Speech Outline:

- I. Ethical system governing legislators
 - A. There are none
 - B. Attempts at systems have been made
 - C. There are good Senators too
- II. Audience opinion
 - A. Less than one half think the problem is serious or very serious
 - B. Over 60% of the audience think I think the problem is serious
 - C. More examples
 1. Cook County Illinois
 2. Michigan's own Senator Hart

III. Availability of information

- A. Not confidential
- B. Reader's guide

IV. Desired effects of appeal

- A. No earth-shattering changes
- B. Encouragement
 - 1. 48% of us have an above average interest in government.
 - 2. Well over half of us think we can do something about the situation.
- C. Long-range attitude influence

Speech Title or Subject: Ungraded School Systems

Speaker No: 3

Quality Rating: Middle

Speech Outline:

Introduction

- I. Some of you (42%) are going into teaching and administration. Those of you who aren't should still be concerned with the schools.
 - A. You will be paying for the schools and teachers in your community.
 - B. Sending your children to these schools.
 - C. May be in a position to influence decisions as to school policy.

Because 42% are going into education these people will have to face this problem in the future. The rest of the audience will be affected by this problem because it will touch them in the above ways.

- II. Passing judgment on educational practices had become the "Great American Pastime."

A. Some of this criticism is unjustified but some is valid.

B. Schools like any other institution are not perfect.

Because part of my audience is against ungraded schools I think it is better to concede that the present method isn't completely wrong.

III. Elementary and High Schools are for everyone.

A. Average child loses nothing by being classified.

B. Poor students, bright and gifted and students with special abilities are often overlooked.

C. Some say this is the consequence we pay for trying to educate the whole population.

D. Other methods have been tried and are working-- the ungraded classroom.

Body

I. Children develop at different levels emotionally, physically, intellectually, and culturally.

A. This creates complex problems for the teacher who must teach them all.

II. An example of culturally deprived children being ability-grouped is the Head Start Program.

III. Ability grouping has been criticized because it takes away factor of competition.

A. Impossible for some students to compete with the rest of the class.

B. Competition still involved but they compete at their own level.

IV. Ability grouping has been criticized because it places a stigma on the poor student.

A. Just as much of a stigma placed on them in a diversified classroom.

- B. At their own level they may be more relaxed and willing to try harder.
- V. If the ungraded classroom works at the elementary level it will work in the high schools.
 - A. Some of you well prepared for college but unfortunately most of us have not.
 - B. This isn't only the results of methods--poor teachers, curriculum, out-moded equipment and poor judgment on our parts add to poor preparation.
 - C. But teaching methods have something to do with it.
 - D. Ungraded system offers opportunity to **work** at own level--not retained or pushed ahead---there is no threat of failure.
 - 1. No fear of attempting courses because competition is too stiff, material covered too fast and is too deep.
 - E. Few of us had opportunity to study a subject in depth. An ungraded system would have given us the opportunity. There would be no single textbook but the material would be geared to the student's capacity.
 - F. Students would have more responsibility which is too often left for college years.
- VI. An example of a working ungraded high school is Cape Kennedy High School.
 - A. Found to work with students anticipating college and those who only to graduate from high school.

Speech Title: Aged Drivers

Speaker No: 12

Quality Rating: Middle

Speech Outline:

- I. Summary of statements.
 - A. Three causes of automobile accidents.

1. Car

2. Road

3. People

B. 49,000 killed in 1965 in United States.

C. Special concern - persons too old to drive.

1. In 1965, 27,000 people killed over 65.

2. Causes

- a. Poor vision

- b. Bad hearing

- c. Slow reflexes

II. Awareness of problem is high.

A. None disagreed that safety items aren't worthwhile.

B. 83% agreed there was problem of older driver.

III. Solution law requiring all drivers over 60 years of age to take reflex, hearing and vision tests upon renewal of license.

A. Would affect only those who couldn't pass test.

B. Effective instruments for testing.

C. Your part - support legislation.

IV. Benefits

A. Reduces chance of auto accidents.

B. Safer for you and I.

V. Closing: I was involved in an automobile accident with an elderly man. A person too old to drive. I never want it to happen to me or you, again. So when the time comes to do something about it - I think we should.

Speech Title or Subject: Physical Fitness

Speaker No: 14

Quality Rating: Middle

Speech Outline:

I. Introduction

- A. 37% believe that in order to be physically fit, must exercise frequently.
 - 1. Through exercise, could build a tremendous physique.
 - 2. In my point of view there would be something missing-- enjoyment.
- B. In 2nd question, 89% of you agreed that exercise could be beneficial to one's mental, physical and spiritual health.
 - 1. Plain exercise doesn't help mental and spiritual but creative activity such as swimming does.

II. Body

- A. 72% of you in class already have an interest in some activity.
 - 1. When one has an interest in something, it is most beneficial to participate in it quite often.
- B. You might be wondering, what are the values of physical activity? (will look at it in the recreation sense)
 - 1. Health -- develops muscles, stimulates circulatory system, etc.
 - 2. Can help prevent mental illness (release people from their problems)
 - a. Develops positive attitudes through accomplishments.
 - 3. Educational values - learn skills, develop an appreciation for beauty which in turn helps build character.
 - a. Not just an escape from education but a vitalizing factor in the process itself.
 - b. Outdoor recreation brings us in close contact with nature (ex. Plank Road Farm and Eve)

5. Citizenship needed for group activities.
6. Individuality - means of releasing creative power.
 - a. ex. of veterans.

Speech Title or Subject: North Central Accreditation
Speaker No: 16
Quality Rating: Middle
Speech Outline:

Introduction: The last time I spoke to you, I talked about how the N.C.A. was organized and the goal of the organization - to promote higher standards of education. To accomplish this goal, the N.C.A. set up an evaluative criteria divided into three main areas: teacher certification, curriculum planning and facility planning. Tonight we are going to look at the N.C.A., its goal and its methods to see if it accomplishes its purpose.

- I. Teacher Certification
 - A. Subject background
 - B. Experience
 1. Albert Einstein
 2. Northwood Institute
 - a. Faculty
 - b. Graduate successes
 - c. Credits transferable
 - d. Experience
 - C. Professional status of teachers
 1. Implications
 2. Credit for economy
 - a. Requirements
 - b. Degrades students

II. Curriculum Planning

A. Standardization

1. Results
2. Questioning
 - a. Survey
 - b. Needs
3. Experimentation
 - a. Nancy World
 - b. Experimental schools
 - c. Individual study
4. Effect on democracy
 - a. Educations importance
 - b. New ideas

III. Facility planning

1. C.C.H.S. - Personal Experience
 - a. unaccredited
 - b. waste of resources
 - c. blessing in disguise
 - d. student success
 1. statistics
 2. conclusion

IV. Methods

1. Outside advice
 - a. Education's purpose

- b. N.C.A. dictator
- 2. New needs-flexibility
 - a. Business oriented
 - b. Qualified evaluators
- 3. Local School Systems and N.C.A. Policy

Conclusion: I know some of you like myself are already married and chances are pretty good that the rest of you will be. I have a four month old daughter who just got her first tooth today. It was a big event and it made me realize she is growing up. As a parent, I want the best for her like you do or will for your children. We've been sold a bill of goods on this N.C.A. and now is the time to start doing something about it. We must take the initiative to insure that our children get the best education possible. Don't allow education to be held back by some authoritarian organization. Encourage your school board to use other means besides N.C.A. dictates to evaluate our schools. We want the best. The choice is up to us.

Speech Title or Subject: The New Morality

Speaker No: 1

Quality Rating: High

Speech Outline:

- I. The only thing new about the "New Morality" is the title! The basic code has been present in our society ever since time began, along with two other forms of moral decision-making. The other two codes have both had their time of prominence - they have been discussed, questioned, applied, and eventually receded back to a place of lesser importance. Today the "New Morality" is a major concern. I have already given you statistics and information showing that the trend today is in favor of the New Morality. Now I'd like to explain a little of the theoretical background and show you how you can take an active part in this revolution.
- II. The three basic moral decision-making policies are as follows:
 - A. Legalism
 - 1. Rules are absolute and unyielding.

2. Obedience to prefabricated "rules of conduct" is more important than freedom to make responsible decisions.
 3. Common in older generation
 - a. Close family ties
 - b. Strict discipline
 - c. Strict religion
- B. Antinomian or law-less method
1. No rules and no guidelines - spontaneous decisions
 2. Post war period - lost generation
- C. "New Morality" - situation ethics
1. A form of ethical relativism
 - a. People have moved to this because moral laws tend to be ambiguous both in theory and application.
 - b. People enter into each and every decision-making situation armed with principles like a legalist but are prepared to suspend or violate any rule if the situation so warrants.
 2. Ethics based on love rather than law.
- III. Each of these philosophies has had a period of dominance, and really it is impossible to draw a line showing where one slows down and the other takes over.
- A. All three philosophies are present today. (example - divorce issue in class)
- B. There is no one reason for why one code becomes more popular at a given time. One explanation for why one stops and the other starts could be as Justin Lewis, sociologist, says:
- "When people become used to a certain way of thinking or when a new, startling approach becomes a normal commonly accepted belief, people will

follow it for a while but will some become bored by it. They will question other attitudes and often, at this point, the previous common attitude will be replaced by the new, challenging concept."

- IV. By examining our society today, as I have partially explained previously, one can see many changes that have taken place and that indirectly helped pave the way for the New Morality.
 - A. Mobility - key characteristic today of American society.
 - 1. Community ties are almost nil.
 - 2. Church influence often weak.
 - B. Partially because of the mobility factor, family ties are very weak in a majority of cases.
 - 1. On the survey taken in this class alone, 58% of class answered that their family was not very close.
 - 2. Parents of the post war period have tended to relax discipline and often replace it with complete freedom.
 - a. Low value systems - vandalism
 - b. Confusion
 - c. Parents feel they are being kind to their kids by giving them a free reign in all matters, but noted child psychologists have stated that kids need and respect discipline.
 - (relate to survey)
 - C. Our society is sex-oriented. All ages are pre-occupied with sex and usually are unashamed to discuss it.
 - 1. Sex education - responsibility of parents.
 - 2. Parents often fail (survey)
- V. So now you know the issues. You have had the main theory of the New Morality explained, you have heard a few ideas on why things occur as they do, and you have seen how you yourselves

are taking part in this revolution.

I know that my speeches haven't forced all of you to weld into a mass that will want to go out and fight against the New Morality.

But I don't want you to do this.

Instead, I ask only one thing of you. Regardless of what your position on the New Morality is, DISCUSS IT WITH AT LEAST ONE OTHER PERSON (behavioral response). Make that person aware of the issue, and make him take an interest in it.

By doing this, you are playing an important part in the morality revolution. By lifting the mystery that surrounds this code, the code itself will become dull and common, and it will recede to its proper place of lesser importance as have the codes of anomism and legalism.

Speech Title or Subject: The Peace Corps

Speaker No: 2

Quality Rating: High

Speech Outline:

A. Two speeches available

1. For a grade
2. Because I wanted to

B. Persuasion 305

1. Original objectives
 - a. Persuade you to join
 - b. Affect attitudes positively
2. I hope I fail in the first objective.

C. Too important a decision for a series of speeches.

D. Decision took me a long time.

1. Writings about the Peace Corps

2. Speaker in class two years ago.
 3. Sister joined two years ago.
 4. Letters home.
 - a. Lost on a trip
 - b. School protests
 - c. Delivering a baby
 - d. Hopes and frustrations
 5. Peace Corps booth.
 6. Test and acceptance for training.
 7. Training.
 8. Still not decided.
- E. I can't persuade you to join. It's too important a decision.
- F. There is no 'Peace Corps'.
1. There is a collection of volunteers.
 2. There is a collection of individuals.
 3. There is a collection of individual successes and failures.
- G. I chose the wrong topic because I'm too involved to be objective.
- H. Rather than my original objectives I hope this to be just a part of a gradual persuasion process.
- I. I also hope to personalize the Peace Corps.
- J. Jobs that need doing--visual aids.
- K. You can't make the Peace Corps your career but part of your career could be the Peace Corps.

Speech Title or Subject: The Art of Cookery

Speaker No: 15

Quality Rating: High

Speech Outline:

- I. Many scientists predict that in the future, perhaps the next twenty years, we may be living on pills along to fulfill our nutritional requirements.
 - B. Monotony.
 - C. Food experience in class.
 1. 42% small variety.
 2. 16% fair variety.
 3. 37% good variety.
 4. 05% large variety.
 5. 00% exceptional variety.
 - D. Might swallow that pill now-monotony.
- II. Need for adequate knowledge increases.
 - A. Bachelors.
 1. Live alone.
 2. Don't want to eat out every night.
 - B. Women
 1. Dire necessity.
 2. Will not learn principles from "Better Homes & Gardens."
 3. Learn scientific principles, easy and enjoyable.
 - C. Entertaining.
 1. Social - He who invites his friends and then neglects to give his personal attention to the food served to them, does not deserve to have them.

- a. Plan banquet.
- b. Dinner at home.
- c. Hostess or host-must carve meat.

2. Business purposes.

D. Nutritional need for variety and quality.

E. Satisfaction received.

- 1. Feel proud.
- 2. Artist conception.

III. Educational experience.

- A. Each meal is a new experience.
- B. Not a bitter pill to swallow.
- C. Does not need to be that way for you.
- D. It does not matter where you learn the scientific principles of cookery. It is just vital that you do. Education in the composition, preparation, and service, of fine food is necessary for you. My only advice: Get out and learn!

Speech Title or Subject: Auto Safety

Speaker No: 18

Quality Rating: High

Speech Outline:

- I. 50,000 lives have been taken by automobile accidents this year and over one million men and women have been disabled.
 - A. The Federal Government has taken steps to reduce traffic accidents but their power is limited.
 - B. Twenty-one states have safety inspection laws.
 - 1. Those states which do not have safety inspection laws have 6.07 fatal accidents per 100 million miles of driving.

2. Those states which have safety inspection laws which are not administered by the State Highway Department have 4.74.
3. Those states which have safety inspection laws which are administered by the State Highway Department have 2.83 fatal accidents per 100 million miles of driving.
4. The National fatality rate is 5.20 fatalities per 100 million miles.

II. The Pennsylvania state inspection system is administered by the State Highway Patrol.

- A. The State Highway Patrol registers qualified service stations, garages, and new car dealers.
- B. The State Highway Patrol trains and registers mechanics who will be permitted to make motor vehicle inspections.
- C. Every licensed vehicle in the State of Pennsylvania must be inspected every six months.
- D. Only items which can cause traffic accidents are inspected.
 1. External lights and headlights must be working and aimed properly.
 2. Horn must sound.
 3. Windshield wipers must be functioning and blades must be good.
 4. Brakes must function within standards of safety.
 - a. The pedal must travel freely.
 - b. Brake wheel cylinders, master cylinders, brakes, hoses and lines must be free of leaks and must meet requirements of wear.
 5. Exhaust system is checked for leaks.
 6. The tires are checked for wear and abrasions.

7. The sheet metal is inspected for protrusions.

8. All glass must be free of cracks which can be felt by the hand.

III. The signing of petition will help reduce fatalities and injuries on Michigan's Highways.

A. The Department of State can use petitions such as these in their presentation to the State Legislature this fall.

B. The adoption of this program will not cause hardships on operators of motor vehicles because vehicles should be inspected every 6,000 miles.

C. \$5.00 per year is minimal if Michigan's fatalities can be reduced from 6.07 to 2.83 per 100 million miles of driving.

Appendix C

Department of Speech
Michigan State University
U.S. Office of Education Project #6-1767
OEC-3-7-061761
East Lansing, Michigan

Dear Sirs:

In consideration of my participation in the research project entitled The Effects of Training and Proficiency in Public Speaking on the Dimensionality of Speech Evaluation I hereby authorize you to record on film, tape or otherwise, my visual and audio likeness and performance, and to use and to authorize to use such recordings or films within the context and definition of the cited research project.

Signed: _____ Witnessed: _____

Date: _____

APPENDIX D

Subject _____

Rate each performance
on a seven point scale
with 1 low and 7 high.

	Total Effect	_____
Materials of Development	Logical Reasoning	_____
	Evidence	_____
	Organization	_____
Personal Proof	Preparation	_____
	Poise	_____
	Attitude	_____
Materials of Experience	Facial Expression	_____
	Enthusiasm	_____
	Eye Contact	_____

Speaker _____ Speech No. _____

Evaluator _____ Total _____

APPENDIX E

November 2, 1966

Herbert J. Oyer, Chairman
Department of Speech
Michigan State University
East Lansing, Michigan

Dear Dr. Oyer:

The intent of this letter is to determine the willingness of your department to participate in a research project sponsored by the United States Office of Education. This project, dealing with the dimensions of classroom speech evaluation, is being administered through Michigan State University. The scope of the research is to involve several universities and colleges engaged in undergraduate speech education. It is this purpose which prompts this letter.

The objectives of the research are three in number:

- 1) To determine specific dimensions of speech evaluation which can be used to make objective distinctions between varying qualities of public speaking.
- 2) To determine the nature of the relationship between training in public speaking and the recognition and use of dimensions of speech evaluation which make objective distinctions between varying qualities of public speaking.
- 3) To determine the nature of the relationship between developed proficiency in public speaking and the ability to recognize and use dimensions of speech evaluation which make objective distinctions between varying qualities of public speaking.

The basic strategy of the project is to have students enrolled in public speaking courses evaluate sets of filmed speeches using a multi-dimensional rating scale. The film-sets and the rating scale have been prepared at Michigan State University. Each set of three films represents "good", "average", and "poor" examples of public speaking as determined by the Rhetoric and Public Address staff of the MSU Department of Speech. Basic Public Speaking enrollees will evaluate two sets of films (early in the course-late in the course). Students in advanced courses (requiring a prerequisite basic public speaking course) will be asked to evaluate two sets of films at the conclusion of those courses. Where possible we would like to have the students involved in this project use the developed rating scale in the evaluation of actual classroom assignments.

In addition to the rating scale, a questionnaire has been developed to determine the amount/type of speech training that a given student has had prior to participation in the project. Within the questionnaire is a section whereby the student can make a self-evaluation of his proficiency as a public speaker. The student's grade in the courses involved in the project will also be used as a measure of speech proficiency.

The rating scale and questionnaire are on IBM scoring forms so as to be machine processed. We assume that the acquisition of course grades can be handled through the institution's record keeping division.

All data will be processed at Michigan State University. The major statistical techniques to be employed will be factor analysis and factorial-discriminant analysis. Data from each participating institution will be processed separately and results made available to that participant. Results of the total project will also be made available.

In terms of the actual administration of the project at participating institutions we would like to have it handled by a competent member of the staff. To this end we are willing to pay for such help. In combination with, or as an alternative to this suggested method of administration, we are willing to send to participating institutions members of the project staff to aid in the gathering of data. Again, all costs associated with the project will be assumed by Michigan State University.

We hope that this letter serves to stimulate your interest in the project and that your department would be willing to cooperate with Michigan State in accomplishing its objectives. We realize that a more detailed schedule of events is necessary before you can make a definite commitment. What we would most appreciate is for you to designate a member of your staff whom we could contact on a personal basis at the upcoming SAA convention. At that time we should be able to determine how the logistics of this project can be incorporated within the academic calendar of your department.

Sincerely,

Herbert J. Oyer, Chairman
Department of Speech

William B. Lashbrook
Project Director

Letters dated November 2, 1966 and signed by Dr. W. B. Lashbrook:

Herbert J. Oyer, Chairman
Department of Speech
Michigan State University
East Lansing, Michigan

James H. McBurney, Dean
School of Speech
Northwestern University
Evanston, Illinois

Jack Matthews, Chairman
Department of Speech
University of Pittsburgh
Pittsburgh 13, Pennsylvania

W. Hayes Yeager, Chairman
Department of Speech
The Ohio State University
Columbus, Ohio 43210

Karl R. Wallace, Chairman
Department of Speech
University of Illinois
Champaign Urbana, Illinois

William M. Sattler, Chairman
Department of Speech
University of Michigan
Ann Arbor, Michigan

J. Jeffery Auer, Chairman
Department of Speech
Indiana University
Bloomington, Indiana 47401

Ray E. Nadeau, Chairman
Department of Speech
Purdue University
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H. Clay Harshbarger, Chairman
Department of Speech
University of Iowa
Iowa City, Iowa

Frederick W. Haberman
Department of Speech
University of Wisconsin
Madison, Wisconsin

Kenneth L. Graham, Chairman
Department of Speech
University of Minnesota
Minneapolis, Minnesota 55455

INSTITUTIONAL CONTACTS

Connecticut	Dr. William Arnold Department of Speech University of Connecticut Storrs, Connecticut 06268	AC 203 429-3311 EXT-1200
Illinois	Dr. Robert L. Ince Assistant Professor Department of Speech & Theatre University of Illinois 136 Lincoln Hall Urbana, Illinois 61801	AC 217 333-3617
Iowa State	Mr. Edward Bodaken Department of Speech Iowa State University Ames, Iowa 50010	AC 515 294-4111
Michigan State	Dr. William Lashbrook Department of Speech Michigan State University East Lansing, Michigan	AC 517 355-6690
Minnesota	Dr. David H. Smith College of Liberal Arts Department of Speech, Comm. & Theatre Arts University of Minnesota Minneapolis, Minnesota	AC 612 373-2851
Ohio State	Dr. Eldon Baker Department of Speech The Ohio State University 154 North Oval Drive Columbus, Ohio 43210	AC 614 293-6558
Pittsburgh	Dr. Otis Walter Department of Speech University of Pittsburgh Pittsburgh, Pennsylvania	AC 412 621-3500
Wisconsin	Dr. Lloyd Bitzer Department of Speech University of Wisconsin Madison, Wisconsin 53706	AC 614 262-2543

-E5-

Michigan

Dr. Howard Martin, Chairman
Department of Speech
University of Michigan
Ann Arbor, Michigan 48104

AC 313
764-5350

Appendix F
Procedures for Data Collection
Speech Rating Project, Phase I
(Michigan State University)

1. Films

Three 800 feet films are provided. Each film shows three student speeches which are to be rated on the rating form provided. Each film shows the same three speeches but in a different order. The films are labelled Film I, Film II, and Film III.

2. Method of Showing Films

Of your classes in beginning Public Speaking which are involved in this project, one half will see a film at the beginning and at the end of the course, and the remaining half will see a film only at the end of the course.

Those classes which see a film at the Beginning of the course (Phase I) will see either Film I, or Film III. One third of them should see Film I, one third should see Film II, and one third should see Film III.

For example, if twelve of your classes (sections) are involved, at the beginning of the course you would have a schedule such as the following:

2 classes see Film I at beginning of course
2 classes see Film II at beginning of course
2 classes see Film III at beginning of course
6 classes see no film at beginning of course

The films should be shown by 16mm sound projector with a 2 inch lens.

The projector should be stopped at the end of each speech to give subjects a chance to fill out the rating form for the respective speech.

3. Rating Forms

The rating forms ask for biographical data and also provide spaces for rating the speeches.

The rating forms are numbered I, II, or III. Those numbered I should be used with Film I, those numbered II with Film II, etc.

Subjects should be given time to fill out the biographical section of the questionnaire prior to the showing of the film.

The rating form has spaces for rating four speeches but only three speeches will be shown. Disregard the space for the fourth speech.

Abbreviations used in the biographical data section are:

Question 9	R & TV	Radio & Television
	R & PA	Rhetoric and Public Address
	Sph. Ed.	Speech Education
	Sph. Sci.	Speech Science (correction)
	Thr.	Theatre

4. Scoring Pencils

Special scoring pencils are being provided. These should be used by all subjects in filling out the questionnaire and rating forms.

5. Billing Procedures

If expenses are incurred in connection with this project, a statement of the expenses should be sent to:

Michigan State University
Account No. 71-2125

6. Mailing Procedures

The films and completed questionnaires should be returned by mail to the Department of Speech, Michigan State University, East Lansing, Michigan 48823.

7. Call Us

If you have any questions whatever about the project, please call us collect at Area Code 517, 355-6690, East Lansing, Michigan. (Brad Lashbrook or Murray Hewgill).

Appendix G

Procedures for Data Collection Speech Rating Project, Phase II (Michigan State University)

1. Films

Two sets of films, set _____ and set _____, are provided.
Film set _____ includes 3 films labelled _____, _____, _____.
Film set _____ includes 3 films labelled _____, _____, _____.

Each film shows 3 student speakers. Each set of films shows the same speakers but in different orders.

Films in set _____ are to be shown to subjects who did not see a film at the beginning of their course.

Films in set _____ are to be shown to subjects who did see a film at the beginning of their course.

It is important that the appropriate rating forms be used with each film.

2. Rating Forms

The rating forms are labelled in a manner similar to the films. They are divided into two sets, set _____ and set _____.

Set _____ of the rating forms is subdivided into _____, _____, and _____.

Set _____ of the rating forms is subdivided into _____, _____, and _____.

Rating forms labelled _____ should be used with the film labelled _____, etc.

You will note that the rating forms in set _____ include some biographical questions, while those in set _____ do not. This is so because the biographical information has already been obtained from the subjects who saw a film at the beginning of the course.

The rating forms have spaces for rating more than three speeches but only three speeches will be seen in each film. Disregard the spaces for rating the additional speeches.

Abbreviations used in the biographical data section of rating form _____ are:

Question 9	R & TV	Radio & Television
	R & PA	Rhetoric and Public Address
	Sph. Ed	Speech Education
	Sph. Sc	Speech Science (correction)
	Thr	Theatre

3. Method of Showing Films
Beginning Courses

The classes which did not see a film at the beginning of the course should see a film in set _____. One third of them should see film _____, one third film _____, and one third film _____.

The classes which did see a film at the beginning of the course should see a film in set _____. One third of these should see film _____, one third film _____, and one third film _____.

For example, if twelve of your classes (sections) are involved, you would have a schedule such as the following:

2 classes see film _____.
2 classes see film _____.
2 classes see film _____.
2 classes see film _____.
2 classes see film _____.
2 classes see film _____.

Advanced Courses

None of your advanced classes saw a film at the beginning of the course. One third of these classes should see film _____, one third film _____, and one third film _____. This, as you may guess, is to control for order effect.

The films should be shown, as before, with a 16 mm sound projector, with a 2 inch lens.

The projector should be stopped at the end of each speech to give subjects a chance to fill out the rating form for the respective speech.

4. Student Grades

We will be in touch with you by telephone about the most appropriate means of obtaining from your department the final course grades of the students involved in this project.

5. Scoring Pencils

Special scoring pencils are being provided. These should be used by all subjects in filling out the questionnaire and rating forms.

6. Billing Procedures

If expenses are incurred in connection with this project, a statement of the expenses should be sent to:

Michigan State University
Account No. 71-2125

7. Mailing Procedures

The films and completed questionnaire and rating forms should be returned by mail to the Department of Speech Michigan State University, East Lansing, Michigan 48823.

8. Call Us

If you have any questions whatever about the project, please call us collect at Area Code 517, 355-6690, East Lansing, Michigan. (Brad Lashbrook or Murray Hewgill).

Appendix H

MICHIGAN STATE UNIVERSITY
SPEECH COMMUNICATION RESEARCH LABORATORY

September 1, 1967

PROGRAM SCORE
DATA TRANSFORMATION FOR MSU SPEECH RATING SCALES
PROGRAM LANGUAGE: 3600 FORTRAN

B. LASHBROOK

This program has been tested by its contributor, however, no warranty expressed or implied, is made by the contributor or the Speech Communication Research Laboratory as to the accuracy and processing of the program and its related materials. Any questions concerning this program should be addressed to Dr. Brad Lashbrook, Speech Communication Research Laboratory, Department of Speech, Michigan State University.

This program was developed as part of a research project dealing with student evaluation of classroom speaking sponsored by the
United States Office of Education.

PROGRAM DESCRIPTION

SCORE is a procedure for transforming data, punched onto cards via an IBM 1230 optical scanner, into standard characters (one character per card column) and repunching converted data onto cards in a format determined by the user. This program was developed particularly for the transformation of data stemming from the MSU Speech Rating Scale.

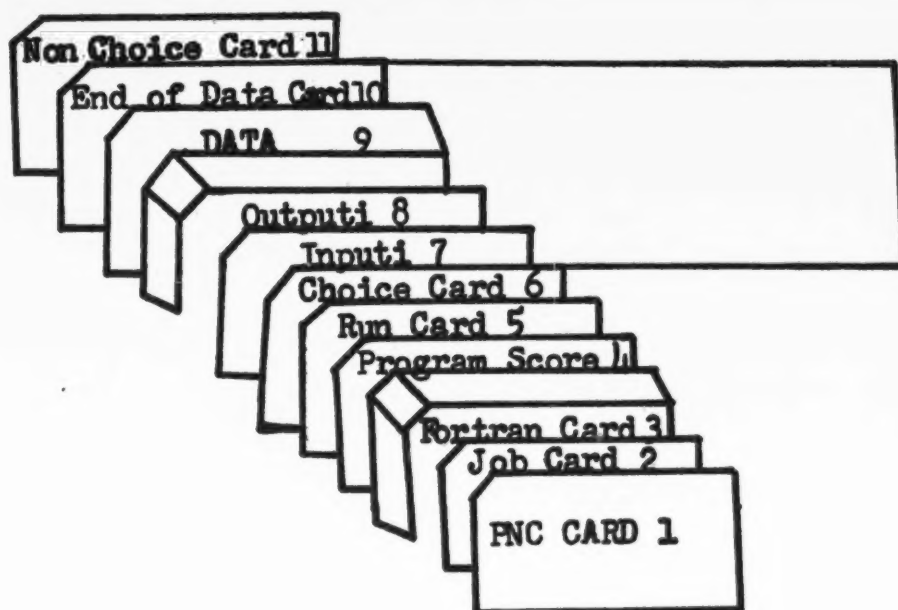
The program allows for 12 identification codes. Each card or set of original data can be read into the computer under the control of a user created format (INPUT_i). Data can be outputted in the form of punched cards under the control of a format (OUTPUT_i) created by the user.

When this program is used to transform data stemming from an optical scan of a MSU Speech Rating Scale the speech scales will be ordered according to quality with the third identification variable determining the order of speeches (according to quality) at the evaluation time.

The program contains three subroutines (FRONT, BACK, BACK1). Each subroutine can handle a particular type of data coming off a scan of the MSU Speech Rating Scale. All data should be grouped according to the user's desire to use a particular subroutine. More than one subroutine may be used on any given run of the program. Data within these groupings may be in any order.

An illegal character in any non-identification field will terminate the program. However, since the program processes one card at a time all material preceding the illegal character will be available.

The program can process up to 100 variables. There is no limitation on the number of observations.



If more than one subroutine is to be used the bracketed group (cards 6-10) should be repeated. The NON-CHOICE card will terminate the program so it should be the last card of the particular run.

CARD PREPARATION

Card #	Begin in Column	Contents
1		PNC cards are prepunched and provided by the Computer Laboratory.
2	1	⁷ ₉ JOB, PROBLEM NUMBER, 6-character title, job time in minutes, Surname initial.
3	1	⁷ ₉ FTN, X
4	7	PROGRAM SCORE is a prepunched program and must be obtained from the Speech Communication Research Laboratory.
5		⁷ ₉ RUN, time, print lines.
6	1	CHOICE CARD The first two columns of this card designate the choice of subroutine to be used for the transforming of data. The following values correspond to the options now available: 01 SUBROUTINE FRONT (43 Variables) 02 SUBROUTINE BACK (69 Variables) 03 SUBROUTINE BACK1 (72 Variables) Any other symbol in the first two columns of the CHOICE CARD will terminate the program.
7	1	INPUTi: A format description beginning with the first parentheses, of the data at time of input. This format is unique only to the data that follows it. All data should be processed as INTEGER values.

8	1	OUTPUTi: A format description, beginning with the first parentheses, of the way in which the user desires to have the punched output arranged. This format is unique only to the data that follows it. All data should be outputted as INTEGER values.
9		DATA in the format specified in on card 6 (INPUTi)
10	1	DATA TERMINATION CARD: The symbol 9 in column 1 will terminate the processing of data by a particular subroutine and return control to the main program. The next card to be read should be a CHOICE CARD.
11	1	NON-CHOICE CARD. Should contain in columns 1-2 some other symbol than 01, 02, 03. This will then terminate the main program.

SAMPLE JOB ASSEMBLY

```
PNC
7 JOB,999999,NOGOOD,1,Smith,B.
9
7 FTN,X
9 PROGRAM SCORE
7 RUN,1,100
01
(43I1)
(I6,2X,I6,2X,I2,2X,10I1,2X,19I1)
6210162323319787654317777654831235555441111
9
00
```

PROGRAM SCORE

```
PROGRAM SCORE
TYPE INTEGER CHOICE, DATA
DIMENSION DATA (100)
COMMON DATA
CALL OLDIOH
1001 READ 1002, CHOICE
1002 FORMAT (I2)
    IF(CHOICE.LT.1) GO TO 1003
    IF(CHOICE.NE.1) GO TO 1004
    CALL FRONT
    GO TO 1001
1004 IF(CHOICE.NE.2) GO TO 1005
    CALL BACK
    GO TO 1001
1005 IF(CHOICE.NE.3) GO TO 1006
    CALL BACK1
    GO TO 1001
1006 PRINT 1007
1007 FORMAT (1H0,*YOUR OPTION IS NOT AVAILABLE VIA THIS PROGRAM.
    1 PLEASE CHECK THE DESCRIPTION*)
1003 END
SUBROUTINE FRONT
TYPE INTEGER DATA
TYPE INTEGER INPUT, OUTPUT
COMMON DATA(100)
DIMENSION INPUT(10),OUTPUT(10)
10001 READ 10002,(INPUT(I),I=1,10)
10002 FORMAT (10A8)
    READ 10002,(OUTPUT(I),I=1,10)
    1 READ INPUT,(DATA(I),I=1,43)
    IF(DATA(1).EQ.9) GO TO 111
    DATA(22)=4
    GO TO 11
10 IF(DATA(22).NE.4) GO TO 12
    DATA(22)=3
    GO TO 11
12 IF(DATA(22).NE.5) GO TO 13
    DATA(22)=2
    GO TO 11
13 IF(DATA(22).NE.7) GO TO 14
```

```
DATA(22)=1
GO TO 11
14 IF(DATA(22).NE.9) GO TO 15
DATA(22)=0
GO TO 11
15 DATA(22)=5
11 CONTINUE
DO 3 I=25,43
IF(DATA(I).LT.2) 4,5
4 DATA(I)=4
GO TO 3
5 IF(DATA(I).NE.2) GO TO 6
DATA(I)=1
GO TO 3
6 IF(DATA(I).NE.3) GO TO 7
DATA(I)=2
GO TO 3
7 IF(DATA(I).NE.4) GO TO 3
DATA(I)=3
3 CONTINUE
PUNCH OUTPUT, ((DATA(I),I=1,10),DATA(12),DATA(14),DATA(11),DATA(13
1), (DATA(K),K=15,43))
GO TO 1
111RETURN
END
SUBROUTINE BACK
TYPE INTEGER DATA
TYPE INTEGER INPUTB, OUTPUTB
COMMON DATA(100)
DIMENSION INPUTB(10),OUTPUTB(10)
10001 READ 10002,(INPUTB(I),I=1,10)
10002 FORMAT (10A8)
READ 10002, (OUTPUTB(I),I=1,10)
1 READ INPUTB,(DATA(I),I=1,69)
IF(DATA(1).EQ.9) GO TO 3
DO 4 I=13,69
IF(DATA(I).LT.4) 5,6
5 DATA(I)=2
GO TO 4
6 IF(DATA(I).NE.4) GO TO 7
DATA(I)=1
GO TO 4
7 IF(DATA(I).NE.5) GO TO 8
```



```
DATA(I)=3
GO TO 4
8 IF(DATA(I).NE.6) GO TO 9
DATA(I)=4
GO TO 4
9 IF(DATA(I).NE.7) GO TO 10
DATA(I)=5
GO TO 4
10 IF(DATA(I).NE.8) GO TO 11
DATA(I)=6
GO TO 4
11 IF(DATA(I).NE.9) GO TO 4
DATA(I)=7
4 CONTINUE
IF(DATA(3).EQ.1) GO TO 12
IF(DATA(3).EQ.2) GO TO 13
IF(DATA(3).EQ.3) GO TO 14
12 PUNCH OUTPUTB,((DATA(I),I=1,12),(DATA(J),J=14,50,2),(DATA(K),K=13,
1 49,2),(DATA(L),L=51,69))
GO TO 1
13 PUNCH OUTPUTB,((DATA(I),I=1,12),(DATA(J),J=13,49,2),(DATA(K),K=51,
1 69),(DATA(L),L=14,50,2))
GO TO 1
14 PUNCH OUTPUTB,((DATA(I),I=1,12),(DATA(J),J=51,69),(DATA(K),K=14,50
1 ,2),(DATA(L),L=13,49,2))
GO TO 1
3 RETURN
END
SUBROUTINE BACK1
TYPE INTEGER DATA
TYPE INTEGER INPUTB1,OUTPUTB1
COMMON DATA(100)
DIMENSION INPUTB1(10),OUTPUTB1(10)
10001 READ 10002, (INPUTB1(I),I=1,10)
10002 FORMAT (10A8)
READ 10002, (OUTPUTB1(I),I=1,10)
1 READ INPUTB1,(DATA(I),I=1,72)
IF(DATA(1).EQ.9) GO TO 3
DO 4 I=16,72
IF(DATA(I).LT.4) 5,6
5 DATA(I)=2
GO TO 4
6 IF(DATA(I).NE.4) GO TO 7
```

```
DATA(I)=1
GO TO 4
7 IF(DATA(I).NE.5) GO TO 8
DATA(I)=3
GO TO 4
8 IF(DATA(I).NE.6) GO TO 9
DATA(I)=4
GO TO 4
9 IF(DATA(I).NE.7) GO TO 10
DATA(I)=5
GO TO 4
10 IF(DATA(I).NE.8) GO TO 11
DATA(I)=6
GO TO 4
11 IF(DATA(I).NE.9) GO TO 4
DATA(I)=7
4 CONTINUE
IF(DATA(3).EQ.1) GO TO 12
IF(DATA(3).EQ.2) GO TO 13
IF(DATA(3).EQ.3) GO TO 14
12 PUNCH OUTPUTB1,((DATA(I),I=1,10),DATA(12),DATA(14),DATA(11), DATA(1
13),DATA(15), (DATA(J),J=17,53,2),(DATA(K),K=16,52,2),(DATA(L),L=54
272))
GO TO 1
13 PUNCH OUTPUTB1,((DATA(I),I=1,10),DATA(12),DATA(14),DATA(11),DATA(1
13),DATA(15), (DATA(J),J=16,52,2),DATA(K),K=54,72),(DATA(L),L=17,53
2,2))
GO TO 1
3 RETURN
END
```

Appendix I

FTN5,3A

```
PROGRAM TRANSP  
TYPE INTEGER  
TYPE INTEGER STOP  
DIMENSION DATA (100)  
READ 15, A  
15 FORMAT (A1)  
2 READ 1,STOP,(DATA(I),I=1,57)  
1 FORMAT (A1,15X,3(19F1,0,2X))  
IF(STOP,EQ,A) GO TO 4  
WRITE OUTPUT TAPE 44,3,(DATA(I),I=1,57)  
3 FORMAT (32X,19F1,0)  
GO TO 2  
4 ENDFILE 44  
REWIND 44  
END
```

RUN,10,100

EXECUTION STARTED AT 1857 -28
LOADMAIN,37,10,36000

EXECUTION STARTED AT 1858 -33

MSU Speech Communication Research Lab

NAME _____
LAST FIRST MIDDLE

DATE _____ STUDENT NO. _____

Instructions

Please rate each speech according to the listed criteria on a seven point scale with 1 low and 7 high.

STUDENT NUMBER									
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

Be Sure Your Marks Are Heavy and Black. Erase Completely Any Answer Changed.

SPEECH 1							
Total Effect	1	2	3	4	5	6	7
Attitude	1	2	3	4	5	6	7
Bodily Movement	1	2	3	4	5	6	7
Diction	1	2	3	4	5	6	7
Enthusiasm	1	2	3	4	5	6	7
Evidence	1	2	3	4	5	6	7
Eye Contact	1	2	3	4	5	6	7
Facial Expression	1	2	3	4	5	6	7
Fluency	1	2	3	4	5	6	7
Imagination	1	2	3	4	5	6	7
Interest	1	2	3	4	5	6	7
Logical Reasoning	1	2	3	4	5	6	7
Organization	1	2	3	4	5	6	7
Phys. Appearance	1	2	3	4	5	6	7
Poise	1	2	3	4	5	6	7
Preparation	1	2	3	4	5	6	7
Vividness	1	2	3	4	5	6	7
Vocal Inflection	1	2	3	4	5	6	7
Word Choice	1	2	3	4	5	6	7

SPEECH 2							
Total Effect	1	2	3	4	5	6	7
Attitude	1	2	3	4	5	6	7
Bodily Movement	1	2	3	4	5	6	7
Diction	1	2	3	4	5	6	7
Enthusiasm	1	2	3	4	5	6	7
Evidence	1	2	3	4	5	6	7
Eye Contact	1	2	3	4	5	6	7
Facial Expression	1	2	3	4	5	6	7
Fluency	1	2	3	4	5	6	7
Imagination	1	2	3	4	5	6	7
Interest	1	2	3	4	5	6	7
Logical Reasoning	1	2	3	4	5	6	7
Organization	1	2	3	4	5	6	7
Phys. Appearance	1	2	3	4	5	6	7
Poise	1	2	3	4	5	6	7
Preparation	1	2	3	4	5	6	7
Vividness	1	2	3	4	5	6	7
Vocal Inflection	1	2	3	4	5	6	7
Word Choice	1	2	3	4	5	6	7

SPEECH 3							
Total Effect	1	2	3	4	5	6	7
Attitude	1	2	3	4	5	6	7
Bodily Movement	1	2	3	4	5	6	7
Diction	1	2	3	4	5	6	7
Enthusiasm	1	2	3	4	5	6	7
Evidence	1	2	3	4	5	6	7
Eye Contact	1	2	3	4	5	6	7
Facial Expression	1	2	3	4	5	6	7
Fluency	1	2	3	4	5	6	7
Imagination	1	2	3	4	5	6	7
Interest	1	2	3	4	5	6	7
Logical Reasoning	1	2	3	4	5	6	7
Organization	1	2	3	4	5	6	7
Phys. Appearance	1	2	3	4	5	6	7
Poise	1	2	3	4	5	6	7
Preparation	1	2	3	4	5	6	7
Vividness	1	2	3	4	5	6	7
Vocal Inflection	1	2	3	4	5	6	7
Word Choice	1	2	3	4	5	6	7

SPEECH 4							
Total Effect	1	2	3	4	5	6	7
Attitude	1	2	3	4	5	6	7
Bodily Movement	1	2	3	4	5	6	7
Diction	1	2	3	4	5	6	7
Enthusiasm	1	2	3	4	5	6	7
Evidence	1	2	3	4	5	6	7
Eye Contact	1	2	3	4	5	6	7
Facial Expression	1	2	3	4	5	6	7
Fluency	1	2	3	4	5	6	7
Imagination	1	2	3	4	5	6	7
Interest	1	2	3	4	5	6	7
Logical Reasoning	1	2	3	4	5	6	7
Organization	1	2	3	4	5	6	7
Phys. Appearance	1	2	3	4	5	6	7
Poise	1	2	3	4	5	6	7
Preparation	1	2	3	4	5	6	7
Vividness	1	2	3	4	5	6	7
Vocal Inflection	1	2	3	4	5	6	7
Word Choice	1	2	3	4	5	6	7